EVIDENCE IN PRACTICE:

A STUDY OF "EVIDENCE-BASED" NON-FORMAL EDUCATION

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The purpose of this study is to better understand how efforts to make non-formal education more "evidence-based" actually unfold in practice. I focus specifically on three cases, two of which involve mandates to implement evidence-based programs, while the third involves incorporation of evidence-based practices. The three cases are instances of a larger contextual shift towards more "scientific" approaches to education research and evaluation, part of the "era of accountability." That shift has fomented much debate in recent years, producing theoretical critiques that—while insightful—are often rhetorical and polemical, lacking a clear grounding in particular practical settings. To address that lack, this study analyzes what actually happens, in practice, when people support the implementation of evidence-based programs or engage in related efforts to make non-formal education more "evidence-based." In essence, I ask: What does that work entail?

Specifically, I ask (1) How is evidence-based program and evidence-based practice work actually practiced? (2) What perspectives and assumptions about what non-formal education is are manifested through that work? and (3) What conflicts and tensions emerge through that work related to those perspectives and assumptions? Empirically, this qualitative study is based on data from in-depth interviews, observation, and document analysis. Theoretically, it is informed

by critical perspectives on epistemological politics, drawing especially from the field of science and technology studies.

Through my elucidation of the intricacies and contingencies involved in making non-formal education more "evidence-based," I am able to highlight divergent perspectives and assumptions about what non-formal education is and about how it should be informed by research evidence. Specifically, non-formal education is constituted by some people as an infrastructure for the dissemination of scientific information and by others as a grassroots site for knowledge sharing. Relatedly, it is alternatively perceived and performed as a program (meaning a tightly bounded, scripted curriculum) or as a set of practices. While the conflicts and tensions between these divergent perspectives may appear academic or irrelevant, I argue that they have stark implications for what non-formal education is and can be in society, concluding that the self-evident superiority of evidence-based programs must be revisited.

BIOGRAPHICAL SKETCH

Thomas Greig Archibald was born in Boston and lived for most of his childhood years in Lexington, Massachusetts, with a three year stint in Hong Kong to whet his appetite for international adventure. He is the son of David and Judy Archibald, both of whom instilled in him the intellectual curiosity and the perseverance to arrive where he is today. His elder brother Dan has been a constant inspiration as well. He attended Lexington High School, benefitting greatly from that school's world-class music program, and went on to attend Cornell University, receiving a BS in Animal Science in 2002. During his latter undergraduate years, he was inspired to study and work in sustainable international agriculture, which prompted him to join the Peace Corps after graduation. Serving as an Environmental Education volunteer in Okondja, Gabon from 2002 to 2004 was life-changing in countless ways, not least of which being that it showed him his vocation in non-formal education.

Returning to Ithaca, NY after the Peace Corps, he worked as a Youth Development Program Manager with Cornell Cooperative Extension of Tompkins County, worked at GreenStar natural foods cooperative, and generally enjoyed Ithaca life. During that time, his reflections and ruminations on five years of planning and implementing non-formal education programs (two years in Gabon and three years in the U.S.) prompted him to pursue graduate education on those and related topics. Upon entering the MS/PhD program in Adult and Extension Education at Cornell, he was hired as a Graduate Research Assistant with the Cornell Office for Research on Evaluation (CORE) under the direction of Professor William Trochim. His experience at CORE would be as life-changing as the Peace Corps; it helped him become a program evaluator and evaluation capacity builder, thus launching his career.

For Nelly and Nisia:
Me na djala bè

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I also recognize and appreciate the financial support that facilitated this work, namely that which was offered via my Graduate Research Assistantship by the National Science Foundation (through NSF Award # 0814364, "A Phase II Trial of the Systems Evaluation Protocol for Assessing and Improving STEM Education Evaluation," William Trochim, PI) and by the Institute for African Development (of Cornell's Einaudi Center for International Studies); thanks Jackie Sayegh!

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methodological appropriateness. His influence on my life was also instrumental—pivotal, really—in that my experience as a Graduate Research Assistant in the Cornell Office for Research on Evaluation (CORE), under his direction, bestowed on me my vocation as program evaluator and evaluation capacity builder; it also financially supported my graduate studies. Stacey was a friend before she joined my committee; I am thankful to report that she remains one afterwards as well. Her extremely rigorous analytical perspective stretched my intellect and impelled me towards a deeper understanding of the things that interest me; she shows me the gaps and chasms in my reasoning, yet always does so in a supportive and compassionate way. A hallmark of great mentoring, all three engaged with me not only as a student but also as a peer. What's more, my committee was amazingly helpful not just because it was comprised of three excellent scholars and advisors, but because all three members worked so well in concert.

I would also like to express my deep gratitude to the many other people who have served as mentors and unofficial advisors to me during my time as a graduate student (and before). Especially because they are unofficial advisors whose influence on my intellectual and professional development might find no formal platform for recognition other than this page, I relish the opportunity to thank them here. Mark Constas was as influential and helpful as my committee members, tirelessly taking the time to meet with me (sometimes in his office, sometimes when I ambushed him at the public computers in Mann Library) on a wide array of topics ranging from methodology, to epistemology, to whatever else popped into my mind. Scott Peters taught me to see and articulate the connections between non-formal education and community organizing, driving me to constantly reflect on and refine my practical theory of ethical and effective education. Richard Kiely has been a friend and mentor for years—though he tends to refuse that latter title—enriching me via countless impassioned conversations about

adult education, engaged learning and research, and more. Terry Tucker, who I met in 2001 when I began studying international agriculture as an undergraduate, has taught me a great deal about the praxis of farmer-centered research and extension; since 2001, he has continued to positively influence my life in myriad ways. Ken Schlather, Linda Schoffel, and so many other people at Cornell Cooperative Extension of Tompkins County have taught me much about non-formal education and helped me find the confidence to pursue my interests in graduate school. As a graduate student, I also benefitted immensely from my participation in courses offered by N'Dri Assié-Lumumba, Parfait Eloundou-Enyegue, Ali Mazrui, Gayatri Menon, John Forester, and Davydd Greenwood.

This was a particularly troubling time to be in the Department of Education at Cornell; I watched as the College of Agriculture and Life Sciences closed the Department, a move I have described elsewhere as both ironic and shameful. Yet in this context, I wish instead to accentuate the positive. My fellow graduate students in the Department offered some semblance of a community even amidst the Department's decline; perhaps our community was strengthened through the shared experience of that decline. I cherish and have been enriched by the times spent with those peers and friends. I am especially grateful for the friendship and camaraderie of Tim Shaffer and John Armstrong. We three engaged in overlapping issues related to community-based education; I owe both of you a huge debt of gratitude (and probably a beer or two). I look forward to our imminent collaborations. In similar fashion, I am grateful for the renaissance of the Cornell Participatory Action Research Network (cPARN), which offered me an intellectual and social home when I was without an academic department. More precisely, I am thankful for the people involved in cPARN since its rebirth, who have all been guides and friends to me.

My experience with CORE, mentioned above, has been immensely influential. I must offer my sincere thanks to Mamadou Chetima who, in addition to leading the Friends of the Tropics social scene for so long, in 2008 brought CORE to my attention and encouraged me to apply for their open Graduate Research Assistant position. Yet my time with CORE would have been meaningless had it not been for the people who make CORE what it is. Yes, CORE supported my education and my livelihood for five years. Yes, CORE provided me with the vocation that has launched my career. But more importantly, CORE provided me an extended family. Through CORE, I have been honored and humbled to work with many exceptional undergraduates, such as Haixin Dang, Stacey Eilbaum, Miranda Fang, and Natalie Cook, who are doing and will continue to do amazing things in their lives; as well as exceptional graduate students, such as Wanda Casillas and Alsion Cathles; plus an inspirational team of colleagues at Montclair State University led by Jennifer Brown Urban and Marissa Burgermaster.

In our second floor office in Mann Library overlooking Beebe Lake, Claire Hebbard was in charge of it all, making sure everything kept working; she was extremely generous in insisting and ensuring that I always put my academic program ahead of my responsibilities as a research assistant. Monica Hargraves, going back to our time as colleagues at Cooperative Extension of Tompkins County, has continually inspired me with her work ethic, attention to detail, editorial prowess, thoughtfulness, and compassion; thank you for reminding me, in the waning days of work on this dissertation, about Navajo rugs and imperfections (and for helping me get at least *some* of the imperfections out of my abstract). Margaret Johnson helped me learn a great deal and consciously guided (and commiserated with) me towards a completed dissertation. Jane Buckley is an extraordinary colleague and friend; I thank her deeply for the excitement we share over so many ideas, for the joy of co-facilitating workshops, and for her patience with me when I

was less efficient than I should have been, and simply for being a friend. Overall, it is difficult, if not impossible, to sum up all that I have gained through my association with CORE.

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CHAPTER ONE

INTRODUCTION AND OVERVIEW

One spring morning, a group of people gathered in the conference room of Tompkins County's Cooperative Extension office to participate in an "Action Research Institute." The meeting was part of a series of facilitated discussions aimed at bringing campus-based researchers and community-based educators together to explore ways of using participatory action research and related approaches to better connect research and practice. A team from a nearby county—consisting of three people based in that county's Extension office and one Cornell-based researcher—presented their collaborative work aimed at better understanding and working to address pockets of poverty in the city of Elmira, New York. Later in the morning, the participants broke up into three smaller groups for discussion around topics that they had identified as salient.

One group formed around the question of how participatory action research can best be integrated into community education work. The group's discussion was driven by the Extension educators' impassioned critiques of the usual ways in which university researchers engage with them. Increasingly, these educators' experiences with campus-based researchers are negative ones; the central point of contention was that researchers seem only interested in imposing and studying tightly scripted "evidence-based" curricula that are discordant or even incommensurate with the educators' philosophy of what Extension education is. As stated by the educators in the workshop that day, non-formal education work consists of interpersonal relationships, adjustments to contextual issues, holistic approaches, and strength-based models (rather than the deficit-based models often manifest in evidence-based curricula). The educators left the meeting

that day with a decision to continue to explore how action research might help them better tell the story of their work. As this vignette shows, the types of evidence on which some educational practitioners base their practice, and the underlying philosophies of education that they espouse, are noticeably different from those favored by many university-based researchers.

Thousands of miles away, in Nairobi, Kenya, an administrator with the Centers for Disease Control and Prevention (CDC) discussed a related issue: CDC's ongoing efforts to promote "evidence-based" HIV/AIDS prevention education interventions in East Africa. A large portion of the administrator's work revolves around taking "evidence-based interventions" that have been developed and rigorously evaluated in the U.S. and adapting them for implementation in Kenya—what she and others refer to as "Kenyanizing" the curricula. As she talked about her work, she paused to make a point about terminology, referring to a document produced by UNAIDS (also known as the Joint United Nations Program on HIV and AIDS) that provides guidance on "preferred terminology." The document recommends using the term "evidence-informed" instead of "evidence-based" and offers the following rationale:

> In the context of research, treatment, and prevention, evidence usually refers to qualitative and/or quantitative results that have been published in a peer-reviewed journal. The term 'evidence-informed' is preferred to 'evidence-based' in recognition of the fact that several elements may play a role in decision-making, only one of which may be scientific evidence. Other elements may include cultural appropriateness, concerns about equity and human rights, feasibility, opportunity costs, etc. (UNAIDS, 2011, pp. 10-11)

These preferred terminology guidelines make explicit the perspective that scientific evidence, though important, is just one of many factors to consider when creating or choosing between various educational programs or practices. Also, the guidelines' mention that "evidence usually refers to qualitative and/or quantitative results that have been published in a peer-reviewed journal" contains a number of noteworthy implications. For instance, the statement presupposes that there exists no single, universally accepted definition of "evidence," a presupposition of

central importance to this dissertation. Relatedly, the statement glosses over decades of acerbic debates about the relative merits of quantitative versus qualitative evidence. This second point is especially noteworthy because most dominant approaches to "evidence-based" education value and admit *only* quantitative evidence gathered through "rigorous" research or evaluation designs. Third, the statement equates "evidence" with that which has been published in a peer-reviewed journal; while many people—especially scientists—might take that aspect of the definition of evidence to be self-evidently correct, many other people—*including* scientists—work, pragmatically, with much broader definitions of "evidence."

Taken together, these two vignettes converge to suggest that the work involved in making education to be "evidence-based" is not as simple and straightforward as it may seem. Difficult questions arise about what non-formal education is, what evidence is, and what special role "scientific evidence" might play in these equations.

Purposes and Research Questions

This is a study of the politics of evidence in practice. I examine the details of practice in three distinct yet related cases in which people's work involves efforts to make non-formal education more "evidence-based." I argue that those practices entail innumerable conflicts about what non-formal education *is* and about how "evidence" should inform practice; conflicts that have stark consequences. All non-formal education—like all human action—is based on *some* evidence, in the vernacular sense of the term. Educators, administrators, program planners, scholars and other people engaged in non-formal education base their actions on a wide array of evidentiary information. What's more, people tend to not be entirely unreflective about what informs their practice—a relatively recent edition of the *Handbook of Adult and Continuing Education* is centered on questions of critically reflexive practice, highlighting the multiplicity of

frameworks, theories of action, and ways of knowing that guide professional non-formal educational praxis (Wilson & Hayes, 2000).

However, the "evidence-based" education movement—one of many related attempts to "bridge the research-practice gap" that has gained prevalence in recent decades—is predicated on more formal and conscribed definitions of evidence, where certain research and evaluation approaches are valued more highly than others. In the current "era of accountability," some policy-makers, funding agencies, and scholars position "scientific" evidence derived from randomized controlled trials (RCTs) as the "gold standard" for establishing proof of which programs "work" and which do not (Coalition for Evidence-Based Policy, 2003; Mosteller & Boruch, 2002; U.S. Department of Education, 2003). According to William Trochim:

> The gold standard debate is one of the most important controversies in contemporary evaluation and applied social sciences. It's at the heart of how we go about trying to understand the world around us. It is integrally related to what we think science is and how it relates to practice. There is a lot at stake. (W. Trochim, unpublished speech transcript, September 10, 2007)

In his critique of the RCT design, Michael Scriven reiterates the point that much is at stake, claiming, "This issue is not a mere academic dispute, and should be treated as one involving the welfare of very many people, not just the egos of a few" (2008, p. 24). Throughout this study, I provide examples of the ways in which tightly circumscribed definitions of "evidence-based programs" affect non-formal education praxis, showing in concrete terms what is at stake.

The evidence-based education movement, with its privileging of RCTs, contains and relies on a number of often tacit assumptions about the nature of research, evidence, knowledge, expertise, and social action, throwing the hierarchical division between "scientific" and "everyday" ways of knowing into sharp relief. The very dichotomization of research and practice, taken to be self-evident in many discussions of the gap between the two, establishes a fundamental knowledge hierarchy in which the evidence-based movement is couched. As such,

at its broadest level, this study is concerned with knowledge hierarchies and their effects: What constitutes credible evidence? What are the political causes and consequences of hierarchizing evidence? Similarly, this study involves questions about the pathways and processes through which research knowledge is instrumentalized: How is knowledge—especially that which is produced through scientific research—intended and understood to effect change in the world? How is practice—such as professional non-formal educational practice—informed by research?

These questions and their variants, questions which partly frame this study, have fomented much debate in recent years. The positions espoused by participants in those debates tend to fall into two general categories, suggesting that how questions about the research-practice gap are *posed* is at least as important as how they are *answered*: Some discussions treat the problem on a purely technical-rationalistic, instrumental level, focused on improving the fidelity of implementation of evidence-based interventions (e.g., Meyers, Durlak & Wandersman, 2012); Others foreground the normative and axiological nature of the problem, offering theoretical critiques of the assumptions that undergird the very notion of the research-practice gap (e.g., Biesta, 2007a). Each of these approaches to posing and answering questions about how to make education practices more evidence-based is elucidative, yet each is also limiting. The first leaves too much unproblematized and risks reifying hegemonic relations of knowledge and power in society; the second lacks grounding in practical contexts and risks dissolving into polemical verbalism. The theoretical critiques characterizing this second category of responses to the research-practice gap are necessary and helpful, but must be supplemented by empirical studies rooted in the particular, historicized work processes of individuals and organizations.

To that end, the purpose of this study is to better understand what actually happens when people try to "bridge the research-practice gap" through efforts to make non-formal education

more "evidence-based." Like Timmermans and Berg (2003) in their analysis of standardization in medical practice, instead of debating the advantages and disadvantages of evidence-based approaches and getting stuck on a rhetorical level of analysis, I offer a study of the politics of evidence in practice. By concentrating on the details of practice in three cases in which people's work involves evidence-based programs and practices, I elucidate some of the tensions and gaps inherent in that work, calling the apparently self-evident superiority of evidence-based education into question. Specifically, I ask the following three research questions: (1) How is evidence-based program and evidence-based practice work actually practiced? (2) What perspectives and assumptions about what non-formal education *is* are manifested through that work? and (3) What conflicts emerge through that work related to those perspectives and assumptions?

Thus, this dissertation's title contains a double entendre: "Evidence in practice" refers, in the first instance, to the explicit goal of the evidence-based education movement—to better instill evidence in practice, to more systematically have evidence inform practice. Yet the phrase also refers to this study's emphasis on the actual practices that comprise the work of supporting and promoting evidence-based programs and evidence-based practices—a focus on the details of evidence, in practice. My focus on practices, perspectives, tensions, and gaps facilitates an analysis of the politics of evidence—certainly not in the sense of formal representational politics based on voting, partisanship, and the state (although macro-political influences on what constitutes credible evidence of effectiveness for government policies and programs is tangibly affected by the lobbying efforts of Jon Baron and the Coalition for Evidence-Based Policy, of which he is the director); and even not (just) in the sense of direct democratic politics based on citizen deliberation and decision-making (e.g., Barber, 1984; Boyte, 2005) (although that sense appears to be both essential and neglected when one is concerned, as I am, with the "dilemma of

the relation of expertise and democracy" [Bender, 1993, p. 128]); but more in the sense of "micropolitics" based on the circulation of power and knowledge in the everyday workings of society (Foucault, 1980; Kulynych, 1997).

In the pages that follow, I demonstrate that the practices of the "evidence-based" education movement, far from simply being technical responses to a technical problem, involve a multitude of conflicts about what non-formal education *is* and about how "evidence" should inform practice. The divergent perspectives on which those conflicts hinge are neither inert nor benign. According to my analysis, they are actively involved—more obviously in some cases, less obviously in others—in making some realities to be more real and others to be less real. In other words, the everyday work, the social relations, the textual mediations that make up evidence-based educational programs and practices are inherently and inevitably political in that—through their configurations of knowledge and power—they are performative and productive; they make educational realities (the program, the educator, the learner, etc.) to be *this* rather than *that* way. I argue that the politics implied in those conflicts have stark material consequences for educators and for everyone else involved in the non-formal education enterprise.

The interpretations supporting this argument are enabled and sustained by my close empirical examination of the practices of evidence-based education work in three specific cases, analyzed through a theoretical lens informed by critical scholarship on knowledge hierarchies and other facets of epistemological politics. I believe that a theoretically robust understanding of the relations of various forms of knowledge, evidence, expertise, and power is crucial to telling this story well. As such, early in this dissertation, I devote a substantial number of pages to a presentation and synthesis of pertinent theoretical perspectives on those interrelated topics,

informed by sociological, historical, and philosophical studies of science and technology. This focus constitutes the conceptual framework that guides this study.

There is a tendency in some quarters (both inside and outside of academia) to see studies that are concerned with theory and philosophy, such as this one, as irrelevant to the everyday workings and problems of human experience. For instance, when I asked one of my interlocutors, a scientist, to describe his personal working definition of "science," he replied that posing such questions is "too epistemological." This exchange evokes a quotation from one of Mulkay's interlocutors who stated, "[Philosophy] is of no interest to scientists … Science provides problems and issues which philosophers can go away and discuss. But they have nothing much of interest to say to scientists" (Aldridge 17, in Mulkay, 1991, p. 117). One goal of this study is to suggest, or even demonstrate, that the opposite is true: that it is imperative to carefully consider the epistemological and ontological assumptions at play in one's field of action, for both instrumental and ethical reasons. I use the term "praxis" to remind myself that theory and practice are imbricated and mutually implicated. Paulo Freire, for example, defines praxis as "reflection and action upon the world in order to transform it" (1970, p. 36). For similar purposes, in chapter two I include a lengthy literature review providing sociological, historical, and philosophical analyses of the status of scientific knowledge in society.

I also linger considerably on a constellation of related contextual factors—such as the era of accountability, the evidence-based medicine movement, "translational research," and related projects aimed at "bridging the research-practice gap"—that help to situate the story I tell. My inclusion of rather extensive theoretical and contextual material in this dissertation provides the background upon which the figure of interest—the practices of evidence-based non-formal education—can be better explicated. The overarching structure of this dissertation, its storyline,

emerges against that backdrop as I pose my three research questions of my three focal cases. As such, I return to and reiterate those three questions often throughout the following pages.

What is Non-Formal Education?

There are multiple ways of framing and understanding what non-formal education is. In this brief introductory section, I offer some perspectives from the literature in response to the question: What is non-formal education? In chapter four, based on my analysis of the data collected for this study, I present additional interpretations about the varied perspectives and assumptions about what non-formal education *is* that are manifested through evidence-based program and evidence-based practice work. As presented in the literature, non-formal, community-based education provides a myriad of learning opportunities to individuals and communities in diverse settings around the world. Usually defined as "any organized, systematic, educational activity carried on outside the framework of the formal [educational] system to provide selected types of learning to particular subgroups in the population, adults as well as children" (Coombs & Ahmed, 1974, p. 8), non-formal education includes, but is not limited to: science, technology, education and math (STEM) outreach; after-school youth development initiatives; literacy education; adult basic education; entrepreneurship training; agricultural extension; community-based rural schools; and more (Eshach, 2007; Rogers, 2005). Community-based education is inherently political; who gets to decide how to plan programs, and, as a result, who benefits from them, are not trivial questions (Cervero & Wilson, 2001, 2006).

One large and historically important context of non-formal education in the U.S. is the Cooperative Extension system, which houses one of this study's focal cases. The literature contains a multiplicity of perspectives on the very idea of "extension" and on the U.S. institution by that same name. Freire, writing about "extension and its gnosiological misinterpretations,"

rejects the term "educational extension," favoring instead the notion of "communication," since, in his analysis, to extend knowledge to someone is a domesticating rather than liberating act (1973, p. 98). Scott Peters, in his many writings on Cooperative Extension and community-university engagement (Hittleman & Peters, 2003; Peters, 2006, 2007; Peters, Alter, & Schwartzbach, 2008, 2010; Peters & Morgan, 2004; Peters, Jordan, Alter, & Bridger, 2003), offers an analysis of Cooperative Extension's plurality of (contrasting) narratives that is salient to this research project. Naming the work of Extension, Peters (2007) recounts and provides evidence of three stories of Cooperative Extension that "include a dominant heroic meta-narrative about technical and economic progress; a tragic counter-narrative about cultural, economic, political, and environmental oppression and destruction; and a prophetic counter-narrative about the struggle for freedom and sustainability" (p. 6). Since publishing that 2007 paper, he has begun to include a forth narrative for Extension: one of senescence and obsolescence. Elsewhere, Peters and a colleague (Hittleman & Peters, 2003) use narrative inquiry to analyze practice stories from Cornell Cooperative Extension educators, offering a close-up view of still more narratives of what the work of Cooperative Extension is about. Adapting a set of questions posed by Mol (1999), I wonder: What do these different narratives tell us "about the kind of politics that might fit this ontological multiplicity… *Where* are the options? *What* is at stake? *Are* there really options? *How* should we choose?" (p. 85). This study is attuned to the politics within the ontological multiplicity of non-formal educations as it is differentially choreographed, performed, and molded through evidence-based program and evidence-based practice work.

Introduction to Cases

As mentioned above, this study is focused on three separate yet related non-formal education contexts in which the phenomena of interest—efforts to make non-formal education more "evidence-based"—are manifest in multiple ways: The ACT for Youth Center of Excellence (ACT for Youth), the 4-H Youth Development Program Area of Cornell Cooperative Extension (4-H), and a partnership between a U.S. university and a Kenyan faith-based organization involved in education ("the Kenyan project").[1] All three cases involve non-formal youth development education. Two of the cases (ACT for Youth and 4-H) are housed within Cornell University's relatively new Bronfenbrenner Center for Translational Research (BCTR), while the third (the Kenyan project) is an HIV prevention education program being implemented in Kenya, funded by the U.S. government and administered by the Centers for Disease Control and Prevention (CDC). Both ACT for Youth and the Kenyan project support the implementation of evidence-based programs (EBPs)[2] designed to prevent teenage pregnancy and HIV infection. They are both positioned between a funder and the community-based educational organizations that implement specific EBPs supported (or mandated) by that funder. They both offer training and technical assistance, provide guidance on evaluation, seek to improve the fidelity of implementation of programs, and address other needs expressed by both the funders and the community-based educators. 4-H, which is the non-formal youth development program of Cornell Cooperative Extension, recently moved administratively and physically from the College of Agriculture and Life Sciences to the BCTR. The impetus for this move was to more firmly connect 4-H activities to scientific research, to make it a site for "translational research." The

[1] ACT for Youth and 4-H (and the BCTR and CCE, the organizations in which they are housed) gave permission to use the actual program names in the reporting of this study. The Kenyan project requested that the name of the initiative and program be kept confidential, and so I will refer to that project simply as "the Kenyan project." That project's administrating body (the CDC), however, did give permission to be identified.

[2] The acronym "EBP" is often used interchangeably to refer to "evidence-based programs" and "evidence-based practices." Because the distinction between those two is so central to this study, I only use "EBP" to refer to "evidence-based programs." Elsewhere in this dissertation, I explicate what an EBP is and how an EBP differs from evidence-based practice.

brunt of this dissertation involves a presentation of these three cases in much greater detail as I focus on them in an effort to garner insights regarding how evidence-based program and practice work is actually practiced, what perspectives and assumptions about what non-formal education is are manifested through that work, and what conflicts emerge through the work related to those perspectives and assumptions.

My selection of these three cases was purposive, the results of my attempts to find contexts in which this study's phenomena of interest were particularly salient. My fieldwork was rendered much more feasible because the two local programs, housed within one organization, offered sites in which work involving evidence-based programs in contexts of non-formal education (and the politics of evidence encompassed therein) was prominently on display. I often reflected on this fact as I descended the gravel path behind Mann Library on the five-minute walk to my primary field site, the BCTR. This project's third focal program, the Kenyan case, came to my attention serendipitously, through networking at a qualitative research conference. Despite the role of convenience and chance in my selection of sample cases, these three programs are exceptionally well-suited sites to pursue the lines of inquiry of this study.

Overview of Chapters

The overarching structure of this dissertation emerges as I pose my three research questions of my three focal cases and augment that line of questing by referring to salient contextual and theoretical literatures. Based on that overarching structure, I organize this dissertation into six chapters. Following this introductory chapter, I offer a review of pertinent literatures, presenting a wealth of contextual information and theoretical perspectives that situate the three cases. That literature review helps locate this study's phenomena of interest—the work processes involved in supporting the implementation of evidence-based programs and other

related efforts to instill evidence in practice—in their broader context. Then, in chapter three, I build on the theoretical perspectives presented in chapter two to discuss the methodological perspectives that guide this study, describing my use of in-depth interviews, observation, and document analysis. In chapter four, I present the three cases in much greater detail, focusing especially on the trends the organizations in each case were facing during the time of this study. All three experienced pressure—more in some cases, slightly less in others—to make non-formal education more evidence-based. In fact, in two of the cases, the focal organizations were mandated to work with evidence-based programs. Building on my presentation of the three cases, I then present data and interpretations pertaining to the practices and processes involved in making "evidence-based" non-formal education. Specifically, I explore how evidence-based program and evidence-based practice work is actually practiced, what perspectives and assumptions about what non-formal education is are manifested through that work, and what conflicts emerge through that work related to those perspectives and assumptions. In chapter six I briefly summarize the earlier chapters and then draw a handful of conclusions.

Statement of Positionality

I remember sitting at a shared computer in the cramped second-floor office of the Rural Youth Services program, part of the 4-H Youth Development program area of Cornell Cooperative Extension of Tompkins County. I was excitedly reading a research brief that had just been forwarded to me by my supervisor. The two- or three-page document produced by Cornell's ACT for Youth program summarized recent research findings regarding positive youth development practice. The year was 2006 and I was a Youth Development program manager recently returned from two years as an environmental education volunteer with the Peace Corps in Gabon, in central-west Africa. While in Gabon, I began to realize that education was my

vocation. Yet with an undergraduate degree in Animal Science, my educational practice was based completely on experience, reflection, and instinct, rather than on formal training in pedagogical theory and practice. The research brief I read was so interesting to me because I saw it as simultaneously guiding my practice going forward and corroborating, explicating, and legitimating my past practice.

For years, I had been "unintentionally" applying some research-based "best practices" as I planned youth development programs in ways that were participatory, included youth as leaders, focused on strengths rather than deficits, and fostered sustained supporting relationships. I was steeped in the community-focused nature of non-formal education: responding to the needs of "the community," crafting creative programs based on local resources and connections, valuing the contextually appropriate nature of education. Yet I knew almost nothing about evaluation and made only very informal assessments of and corrections to my practice and my programming, not even aware of notions of "reflective practice" (Schön, 1983), although that was largely what I was doing. Similarly, I was only minimally aware of whether and how my practice connected to university-based research and discussions about topics which were salient to me (despite the fact that, according to the dominant meta-narrative, Cooperative Extension's mission is to "put the university's knowledge to work.")

Later, as a graduate student, I learned about various approaches to both the planning and the evaluation of non-formal education programs. In the process, I more actively reflected on how and why I planned and evaluated my programs as I did. These recollections and reflections provide the reflexive kernel at the core of this study. My position and perspective relative to this study are influenced by my experiences: as a planner and implementer of non-formal youth development—for two years in Gabon (in the town of Okondja) and three years in the United

States (near Ithaca, New York); as a student of mentors who emphasize the role of power in program planning, the links between non-formal education and community organizing, the need to question assumptions, categories, and dichotomies, and the need for methodological appropriateness; as a research assistant with the Cornell Office for Research on Evaluation, working to (understand how to) build the evaluation capacity of non-formal educators; and as an evaluator. More generally, my position is platformed by a desire to find and share elements of an ethical praxis of non-formal education which embraces rather than effaces the intricacies and nuances that characterize social human action. Upon this platform and from this perspective, I have identified and characterized the research problem and questions that focus this study. In doing so, I am reminded of W. E. B. DuBois' eloquent and compelling discussion, written over a hundred years ago, of how the selection and definition of one's research problem is a political act with stark consequences. Complicating Durkheim's notion of objective social fact and Weber's insistence on the separation of facts and values—and foreshadowing Bacchi's "What's the Problem Represented to be?" approach to inquiry (2012)—DuBois points out:

> If a Negro discusses the question [of the difficulties facing Black Americans around 1900], he is apt to discuss simply the problem of race prejudice; if a Southern white man writes on the subject he is apt to discuss problems of ignorance, crime and social degradation; and yet each calls the problem he discusses the Negro problem. (1898, p. 9)

What the problem is represented to be matters in a multitude of ways, along multiple dimensions. I realize that the way in which I position myself in relation to my "objects" of inquiry has implications for what types of knowledge claims I may be able to make, and how these claims may be of use. My representation of the problem inevitably contains innumerable biases of which I am more or less aware; I attempt to address these biases as they arise throughout my analysis.

CHAPTER TWO

BACKGROUND—SITUATING THE WORK

In order to better understand the details of practice and the politics of evidence at play in these three contexts of "evidence-based" education, I found that it was essential to see these cases as nested within a broader contextual and theoretical framework that I refer to as their "ecology of evidence." I maintain that it is in the context of this ecology—the micro- and macro-political causes and effects of why and how different ways of knowing about the world are dichotomized, hierarchized, sometimes reified as being natural, and then in some cases deified—that the narrative of transforming non-formal education into particular versions of "evidence-based" education must be located. By presenting this rather extensive background information, I intend to both expand on the problem statement presented in chapter one, and draw out connections between pertinent ideas that augment my analysis of this study's three focal cases.

An Era of Accountability

The drive to find "programs that work" and that "bridge the research-practice gap" is closely connected to the "era of accountability." A precise definition of this frequently mentioned era is elusive, yet in general, the era of accountability refers to increased pressure exerted by funding agencies on the programs they fund to improve project management tasks such as setting goals, measuring results, and reporting progress. Broadly speaking, the era of accountability is a response to the perceived lack of effective and efficient government oversight of large social programs and other governmental expenditures of the 1970s and 1980s. It began with efforts undertaken by the U.S. federal government to adjure greater accountability at the federal agency level, which subsequently affected the way governmental offices in the U.S.

worked at state and local levels. The United Kingdom experienced similar shifts towards increased accountability during the same time period. More recently, the tenets of the era of accountability have been taken up with fervor by multilateral international development organizations, large philanthropist organizations, and other institutions whose reach extends across the globe, thus exporting the accountability movement internationally, led, perhaps most resoundingly, by the International Initiative for Impact Evaluation (3ie), which was established in 2008 following a report by the Evaluation Gap Working Group of the Center for Global Development (Savedoff, Levine, & Birdsall, 2006), and The Abdul Latif Jameel Poverty Action Lab (J-PAL), which was established in 2003 as a research center at the Economics Department at the Massachusetts Institute of Technology. While a careful exploration of the era of accountability's historical origins and evolutionary trajectory is beyond the scope of this study, it will be helpful to briefly review a few key events in the era's timeline, as they represent important topographical features in the ecology of evidence in which we find this study's focal programs located.

Although precursors to the era of accountability in the U.S. can be noticed as far back as Johnson's Great Society, perhaps the inaugural moment in the history of the era of accountability was the enactment of the Government Performance and Results Act (GPRA) (Public Law 103-62) in 1993. GPRA was based on congressional findings that:

> (1) waste and inefficiency in Federal programs undermine the confidence of the American people in the Government and reduces the Federal Government's ability to address adequately vital public needs; (2) Federal managers are seriously disadvantaged in their efforts to improve program efficiency and effectiveness, because of insufficient articulation of program goals and inadequate information on program performance; and (3) congressional policymaking, spending decisions and program oversight are seriously handicapped by insufficient attention to program performance and results. (P.L. 103-62, unpaginated)

Critical reviews of GPRA's implementation suggest "that overlaying a results-oriented managerial logic on top of an inherently political process in which agency goals may be ambiguous or contradictory sets the stage for inevitable problems in implementation, above and beyond the challenges of identifying adequate measures of performance" (Heinrich, 2011, p. 123). GPRA was followed in 2002 by the Program Assessment Rating Tool (PART), an initiative of the Office of Management and Budget (OMB) under President George W. Bush, which "is a questionnaire designed to help assess the management and performance of programs. It is used to evaluate a program's purpose, design, planning, management, results, and accountability to determine its overall effectiveness" (ExpectMore.gov, n.d.). PART was introduced "to more rigorously, systematically, and transparently assess public program effectiveness and hold agencies accountable for results by tying them to the executive budget formulation process and program funding" (Heinrich, 2011, p. 123).

At the same time, the debates around accountability heated up within the fields of education and evaluation following the passage of the No Child Left Behind (NCLB) Act of 2001 (Public Law 107-110), which contains over 100 references to "scientifically based research" and effectively mandates RCT designs for the research and evaluation of federally funded education programs (Carlson & Levin, 2005; Feuer, Towne & Shavelson, 2002). The passage of that act was followed by two reports—both commissioned by the U.S. Department of Education—written by the National Research Council of the National Academy of Sciences (NRC, 2002) and by the Coalition for Evidence-Based Policy (CEBP, 2003), which were intended to guide educational researchers towards more "scientific" work. In the next chapter, I review in greater detail the debates sparked by NCLB and the reports that accompanied it.

Similarly, on November 4th 2003, the U.S. Department of Education issued a call for public comment on proposed regulations aimed at prioritizing "scientifically based evaluation methods"—meaning experimental or "strong" quasi-experimental designs—in funding decisions pertaining to educational programs nation-wide (U.S. Department of Education, 2003). The Department of Education gave one month for public comment, which happened to coincide with the annual meeting of the American Evaluation Association (AEA). Tensions flared during the AEA conference, and the association leadership soon after developed a policy statement in response to the Department of Education's call for public comment, outlining, among other things, the methodological limitations of RCTs. This "AEA Statement" in turn prompted eight dissenting long-time members to draft "The Not AEA Statement," in support of the Department of Education report (Donaldson, 2009), and to later leave AEA and form a new professional society, the Society for Research on Educational Effectiveness (SREE). The methodological and epistemological culture of SREE is very much in line with the federal government's legislative perspective on research and evaluation methodology. These "gold standard" debates raging around the proper place of RCTs in social research, provoked by the U.S. government's increased emphasis on randomized designs and "scientific" research and evaluation, represent in effect a rekindling or new iteration of the "the science wars" about the (contested) relationship between "hard" and "social" sciences (Parsons, 2003) and "the paradigm wars" about the (contested) relationship between quantitative and qualitative research methodologies, especially as pertains validity and quality (Moss, Phillips, Erickson, Floden, Lather & Schneider, 2009). All of these "wars" and debates are similar in that they are centered on questions of what counts as credible knowledge. They have to do with knowledge hierarchies, and as such have significant bearing on this study's context and research questions.

Evidence-Based Living

The era of accountability and the increasing push to use only programs and practices "that work" (meaning those for which evidence of effectiveness has been shown by way of an RCT) has catalyzed the proliferation of evidence "clearinghouses" that establish criteria for what counts as credible evidence and then rank programs or other interventions accordingly. This approach originated in biomedicine; the leading group in that field is the Cochrane Collaboration[3], which curates a database containing systematic reviews of published RCT studies on a given health topic. An overview of the origins and focus of the Cochran ideal is presented by Timmermans and Berg:

> In Britain, Archie Cochrane was captured by the Germans during World War II and became the medical officer to 20,000 prisoners of war. Because Cochrane had access only to the most basic medical tools to treat the starved and diseased patients, he expected many of his patients to die. To his surprise only a handful of prisoners died, mostly from gunshot wounds. During a later prisoner-of-war experience, Cochrane had more modern medical procedures at his disposal. Because mortality rates were much higher in the second camp, Cochrane feared that inappropriate interventions caused unnecessary deaths. In 1972, Cochrane published *Effectiveness and Efficiency,* arguing against medical overuse of techniques with questionable evidence. He made a plea for investigating medical interventions with randomized clinical trials. Services that were harmful, not effective, or overly expensive could then be replaced by underutilized better techniques. Likewise, he argued for the urgency of systematic reviews of randomized controlled trials on a given topic, so that professionals would have quick access to high-quality summary information about the evidence for or against a certain intervention. The Cochrane Collaboration, named after him, now performs and collects such reviews, using state-of-the-art statistical techniques. (2003, p. 14)

The statistical techniques to which Timmermans and Berg refer include systematic reviews and meta-analysis, both of which are important pieces of the endeavor to bridge research and practice. A systematic review is a "high-level overview of primary research on a particular research question that tries to identify, select, synthesize and appraise all high quality research evidence relevant to that question in order to answer it" (Cochrane Collaboration, 2013). A meta-

[3] www.cochrane.org

analysis "integrates the outcome estimates from multiple studies to arrive at an overall or summary judgment on an evaluation question" (Trochim, 2006, unpaginated). Parallel formations in education and other social programs include the Campbell Collaboration[4] and the What Works Clearinghouse (WWC)[5].

According to the What Works Clearinghouse Procedures and Standards Handbook (Version 3.0):

> The WWC prioritizes findings from studies of effectiveness that use a randomized controlled trial or quasi-experimental design. Studies that use a regression discontinuity design or single-case design may be reviewed against pilot design standards and described in reports. However, the findings from single-case designs and regression discontinuity designs are not included in the evidence findings reported in intervention reports. Studies using other study designs are not eligible for review. (2013, p. 8)

Evidence clearinghouses such as these, with their privileging of experimental and quasi-experimental design studies, inherently favor internal validity, often at the expense of external validity (Cronbach, 1982) and other varieties of validity (Chen, 2010). Ironically, Donald Campbell himself scathingly critiques definitional operationalism—an "unmitigated disaster" imported into social policy science from logical positivism, which "persists most perniciously … in the accountability movement, or in managerial control efforts employing single explicit quantitative criteria" (Campbell, 1984, p. 18). Ironically, in doing so, he essentially condemns both the clearinghouse that bears his name and many central tenets of the evidence-based program industry.

The twenty-four hour cable news cycle, high-speed internet, "big data," and other features of the contemporary information and communication technology landscape connect people to sources of information in new ways. People believe or are skeptical of information depending on their personal proclivities and on societal norms. Within that context, people are

[4] http://www.campbellcollaboration.org/
[5] http://ies.ed.gov/ncee/wwc/

generally more aware of scientific research that pertains to their lives. Somewhat in the spirit of the evidence clearinghouses mentioned above, but with a slightly broader focus, the BCTR hosts a blog entitled "Evidence-Based Living: Bridging the Gap between Research and Real Life" that attempts to address the information overload that seems to characterize life in contemporary modern (or postmodern) society. The blog is presented as a way to help members of the general public sift through the volumes of information available to them:

> For the first 10,000 years of human history, our problem was having too little information. For the past twenty years, that has changed to having too much. The blog is based on one key principle: Now more than ever, people need help separating the good scientific information from the bad. We are all about assessing the scientific evidence on human problems and looking at how to use it every day. Some posts will look specifically at what Cooperative Extension professionals do, but all will be relevant to anyone seeking to use scientific methods and findings for the good of the public. (Evidence-Based Living, 2013)

The blog explores: "the relationship between research and real-life; how to create a better marriage between science and service; how professionals are using research to improve the human condition; [and] how their work can improve both your work and your life" (ibid.). In 2011, Karl Pillemer, Professor of Human Development and Associate Dean for Extension and Outreach in Cornell's College of Human Ecology, and the originator of the Evidence-Based Living blog, wrote a post that captures well the enthusiastic support of RCTs to which I refer above. After describing the tenuous nature of the testimonial evidence frequently presented in late-night television infomercials for weight-loss programs and the like—evidence which he equates to that produced through case study research designs—he writes:

> To the rescue comes experiments [sic] using randomized, controlled designs (RCD). Such experiments are rightly called the 'gold standard' for knowing whether a treatment will work. In a RCDs [sic], we create a test so that one explanation necessarily disconfirms the other explanation. Think of it like a football game. Both teams can't win, and one eventually beats the other. It's the same with science: our knowledge can only progress if one explanation can knock out another explanation. (Pillemer, 2011)

The football game metaphor for scientific knowledge is an interesting one. Later in this chapter, I attempt to offer a somewhat more nuanced view of the sociology, history, and philosophy of scientific knowledge. Regardless, this quotation from the Evidence-Based Living blog helps set the stage, showing the discursive positioning of particular methodologies and epistemologies as superior to others. The blog's discourse also foregrounds the ways in which dichotomizing "research" and "real-life" effaces the "real-lifeness" of research. In debating "the research-practice" gap, it is easy to forget that research is itself a practice. For at least the last 30 years, the field of science and technology studies (STS) has lead the way in efforts to highlight the social, situated nature of scientific endeavors that are usually somehow seen as existing apart from (and above) the everyday workings of society; work from the field of STS informs the theoretical perspectives guiding this study.

Knowledge Hierarchies in Medicine

The Cochrane Collaboration, described above, is a central component of the evidence-based medicine (EBM) movement. EBM "has become a powerful movement that promises to change the content and structure of medicine and its allied professions" (Timmermans & Berg, 2003, p. 6). Below, I briefly introduce EBM and the debates that movement spurred.

Evidence-based medicine. The concepts and practices which comprise the evidence-based movement originated in biomedical and public health fields. Although this study is focused on non-formal education, not medicine—though it does involve public health, since two of the focal programs deal with adolescent sexual health—a tangent into the original debates about evidence-based medicine (EBM) will be helpful. EBM is "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients, … [integrating] individual clinical expertise with the best available external clinical evidence

from systematic research" (Sackett, Rosenberg, Muir & Brian, 1996, p. 71). One of the key figures in the popularization of evidence-based practice in contemporary medicine is Sackett, who somewhat ironically argued for a balanced approach in practice between synthesized evidence from randomized clinical trials and expert practitioner judgment (Sackett, Rosenberg, Muir & Brian, 1996). Following the lead of Sackett, Guyatt (Guyatt et al., 1992) and others, a canon of EBM literature rapidly emerged in the form of new journals, journal articles, books, textbooks, and websites (Shahar, 1998). Although EBM is strongly linked to the RCT design, Sackett and colleagues actually admit the need for methodological plurality:

> Evidence based medicine is not restricted to randomised trials and meta-analyses. It involves tracking down the best external evidence with which to answer our clinical questions. To find out about the accuracy of a diagnostic test, we need to find proper cross sectional studies of patients clinically suspected of harbouring the relevant disorder, not a randomised trial. (Sackett, Rosenberg, Muir & Brian, 1996, p. 71)

Regardless of Sackett's intentions, EBM quickly became a polemic in the health sciences, as critics railed against it as a needless neologism, as an act of intellectual poverty, as a governmental management strategy to cut health care costs, and as a scientistic oversimplification of professional health practice (Couto, 1998; Shahar, 1998).

Following the initial critique of EBM in the late 1990s, another volley between its proponents and detractors was provoked in the late 2000s by a paper drawing on Deleuze and Guattari and evoking Orwellian "newspeak" to present the EBM movement as "outrageously exclusionary and dangerously normative with regards to scientific knowledge … a good example of microfascism at play in the contemporary scientific arena" (Holmes, Murray, Perron & Rail, 2006). Holmes et al. describe EBM as a "regime of truth" (as defined by Foucault) which produces subjugated knowledge and "does not allow pluralism, unless that pluralism is engineered by the Cochrane hierarchy itself." They go on to write, "Such a hegemony makes inevitable the further 'segmentation' of knowledge (i.e. disallowing multiple epistemologies),

and further marginalize[s] many forms of knowing" (2006, p. 181). Elsewhere, the same authors apply the Sartrean existentialist concepts of "no exit" and "bad/good faith" to question the "methodological fundamentalism" of the "regime of 'evidence,'" and to offer a "critique of these definitions [of 'integrity' and 'truth'] and of the systemic power that is reproduced and guarded by the gatekeepers of 'Good Science'" (Murray, Holmes, Perron & Rail, 2007, p. 512).

The responses to these papers ranged from vitriolic, personal attacks to theoretic critiques which agree with the basic premises of the papers yet challenge some of the authors' lines of reasoning and rhetoric (Goldacre, 2006; Miles, Loughlin & Polychronis, 2007). The most salient (and troubling) aspect of the responses to postmodern deconstructions of EBM's philosophical foundations is the way in which such responses ignore the substantive thrust of the critical arguments, dwelling instead on the difficult to understand nature of the text, calling Deleuze "a character," and likening the paper to the Sokal hoax (Goldacre, 2006). Ironically justifying claims about the exclusionary discourses of EBM, "Goldacre readily admits to having formed his assessment of their article on the basis of 'looking at the title'; he 'just knows' he can dismiss them because they disagree with EBM, a position he characterizes in such platitudinous terms that anyone opposing it must have misunderstood" (Loughlin, 2007, p. 517). It is a process of managing the language of evidence and its relation to practice and then treating any unfamiliar language used to interrogate the now apparently self-evident, natural, and universal discourse as unintelligible and inadmissible; referencing Murray and colleagues' evocation of Orwell, Loughlin concludes, "If these guidelines were not part of the manual Winston's bosses at the Ministry of Truth issued to him, then they might well have been" (2007, p. 519).

Translational research. Translational research (TR) is a more recent arrival on the biomedical scene, yet it has quickly become an important topic in various biomedical domains.

For instance, the National Institutes of Health have made translational research a central priority, investing roughly half a billion dollars in it per year (Trochim, Kane, Graham, & Pincus, 2011). As a neologism, "translational research" has many definitions, one of which "refers to translating research into practice; i.e., ensuring that new treatments and research knowledge actually reach the patients or populations for whom they are intended and are implemented correctly" (Woolf, 2008, p. 211). As another sign of TR's ascendency, the American Academy for the Advancement of Science (AAAS), since 2009, has published a journal dedicated to TR and medicine, the mission of which is "To promote human health by providing a forum for communication and cross-fertilization among basic, translational, and clinical research practitioners and trainees from all relevant established and emerging disciplines." As mentioned above, TR is essentially about accelerating the processes by which innovations are implemented in clinical settings. One prominent 2008 paper in the *Journal of the American Medical Association* proposes and defines a "3T" model of TR:

> Basic science and its translation into clinical research (translation 1 or T1) are only the beginning of the journey toward high-quality, effective, and safe care delivery. Next, translation 2 (T2) activities focus on creating more patient-specific evidence of clinical effectiveness; comparative effectiveness to identify "the right treatment for the right patient in the right way at the right time"; and translation into practice guidelines and tools for patients, clinicians, and policy makers. Translation 3 (T3) activities comprise the essential third step along the 3T's road map. T3 activities address the "how" of health care delivery so that evidence-based treatment, prevention, and other interventions are delivered reliably to all patients in all settings of care and improve the health of individuals and populations. For the United States to fully reap the health benefits of an increased investment in comparative effectiveness (T2), the connection between research and practice must be built through measurement, experimentation, and dissemination of the "how" of health care delivery (T3). T3 activities in this model include policy changes necessary to foster attempts to improve health outcomes. (Dougherty & Conway, 2008, p. 2319)

An article in *Science*, "Life Cycle of Translational Research for Medical Interventions," studied the lag between the time of the initial discovery of an intervention and the time the "first highly cited clinical study was published showing effectiveness" (Contopoulos-Ioannidis, Alexiou,

Gouvias, & Ioannidis, 2008, p. 1298). The authors reviewed 32 interventions and arrived at a median lag time of 16.5 years.

Responding to and refining the "3T" model of translation, Trochim and colleagues offer a "process marker model" for evaluating and understanding translation. That model is "an alternative to the dominant contemporary tendency to define translational research in terms of a series of discrete 'phases.'" The authors "contend that this phased approach has been confusing and that it is insufficient as a basis for evaluation," arguing instead "for the identification of key operational and measurable markers along a generalized process pathway from research to practice" (Trochim et al., 2011, p. 153). An example of the application of this process marker model is presented in a figure (p. 160) in Trochim et al.

Another commonly used model of TR, especially in domains of social and behavioral health interventions, was created by the CDC. Because of the CDC's relationship to both ACT for Youth (and other BCTR initiatives) and the Kenyan project, this model of TR is particularly salient to this study. Their "Knowledge to Action" framework "identifies 3 phases (research, translation, and institutionalization) and the decision points, interactions, and supporting structures within the phases that are necessary to move knowledge to sustainable action" (Wilson, Brady, & Lesesne, 2011, p. 1), thus framing the phases of the process slightly differently than many discussions in biomedical domains. The graphical representation of their model includes blue arrows going from right to left, labeled as "Practice-based Evidence" and "Practice-based Discovery."

TR has, it appears, been less mired in debate then its neighbor (or relative) EBM. However, discussions continue about what TR is and how better to empirically understand it. For instance, shifts in the leadership of the NIH were accompanied by shifts in the meaning of TR.

The current Director, Francis Collins is renowned for his work on the human genome project; when he assumed power of the agency, the TR emphasis shifted to encompass more efforts to translate genetic breakthroughs into new therapies, for example. Still, TR is elsewhere also defined in ways that locate the key translation point at the border between "dissemination" and "practice." This perspective on TR, discussed at length in a volume edited by two BCTR faculty (Wethington & Dunifon, 2012), is more frequently the focus of translation at the BCTR.

Knowledge Hierarchies in Education and Evaluation

Borrowed knowledge. Critical inquiry must be sensitive to "the seepage of language and meaning from one domain to another" and examine "the uses to which models are put" when those models move (Longino, 1993, p. 115). Kellert (2008) offers an in-depth look at the philosophical and rhetorical processes and functions related to the widespread seepage of "chaos theory" from its disciplinary places of origin in the "natural sciences" into other fields. Beyond his interest in that particular theory, his goal is to study the phenomenon of "borrowed knowledge" more generally—"the attempt to transfer concepts, methods, and results to other disciplines"—as a way of illuminating "important features of the way we create knowledge" (p. 2). Looking at examples of applications of chaos theory in economics, legal theory, and literary studies, Kellert asks: "Why do people borrow knowledge, and how do they go about it? What do they hope to accomplish by borrowing knowledge, and what do they actually accomplish? When does it work well, and when does it work poorly?" (ibid.). Though I see Kellert's work as being compromised by his occasional reliance on an overly naturalized, unproblematized dichotomization of "natural sciences" and other fields of inquiry, his guiding questions and some of his conclusions are still pertinent to this present study.

As I show below—indeed, as some leaders of the "evidence-based" movement in education proudly decree—evidence-based and TR work in the social and behavioral sciences often borrows quite liberally from biomedical domains. The notions of evidence-based programs, evidence-based practices and TR are translated across disciplinary bounds. I am curious about what happens in that process of translation. What is lost in translation? What is gained? I introduce the concept of borrowed knowledge here to signal the importance of following Longino's advice and remaining attuned to discursive and logical leaps in my exploration of the theoretical assumptions and practical work processes involved in evidence-based education.

Evidence-based education. The field of education features most prominently in the plethora of fields which have received or developed their own appropriation of evidence-based practice, among evidence-based: management, decision making, coaching, social services, policing, conservation, dentistry, policy, occupational therapy, prevention science, dermatology, gambling treatment, sex education, needle exchange programs, and prices, all part of "an evidence-based global society" (Donaldson, 2009, p. 4). A paper in the *Journal of Extension*, authored by five people affiliated with CCE, argues for "evidence-based extension" (Dunifon, Duttweiler, Pillemer, Tobias, & Trochim, 2004). While not all of these evidence-based efforts place the very high premium on RCTs represented by the gold standard moniker, education has been a site of very contentious debate about that research design and its status.[6]

In the field of education (especially formal education, initially), debates about evidence-based education and RCTs were largely catalyzed by the passage of the No Child Left Behind (NCLB) Act of 2001 (Public Law 107-110), with its explicit discursive positioning of

[6] See Walters, Lareau & Ranis, 2009, and Wiseman, 2010 for in-depth reviews. For more examples of the debates around evidence-based education, see also Atkinson, 2000; Berliner, 2002; Biesta, 2005, 2007a, 2007b, 2010a, 2010b; Brighton, 2000; Burton & Underwood, 2000; Davies, B., 2003; Davies, P., 1999; Elliott, 2001; Erickson & Gutierrez, 2002; Fox, 2003; Hammersley, 2001; Oakley, 2002; Oliver & Conole, 2003; Olson, 2004; Pirrie, 2001; Ridgway, Zawojewski, & Hoover, 2000; Sanderson, 2003; Simons, 2003; St. Pierre, 2002; Willinsky, 2001.

"scientifically-based research," effectively mandating RCT designs for the research and evaluation of federally funded education programs (Carlson & Levin, 2005; Feuer, Towne & Shavelson, 2002). The passage of that act was followed by two reports—commissioned by the U.S. Department of Education—written by the National Research Council of the National Academy of Sciences (NRC, 2002) and by the Coalition for Evidence-Based Policy (CEBP, 2003), both of which were intended to guide educational researchers towards more "scientific" work. It is interesting to note the differences between these reports regarding their backgrounds, their authorship, their tone, their findings and recommendations, and the responses they provoked in various quarters of the field of education. The NRC report explicitly admits a plurality of evidence sources, including ethnography, and offers a somewhat nuanced consideration of the nature of science:

> At its core, scientific inquiry is the same in all fields. Scientific research, whether in education, physics, anthropology, molecular biology, or economics, is a continual process of rigorous reasoning supported by a dynamic interplay among methods, theories, and findings. It builds understandings in the form of models or theories that can be tested. Advances in scientific knowledge are achieved by the self-regulating norms of the scientific community over time, not, as sometimes believed, by the mechanistic application of a particular scientific method to a static set of questions. (NRC, 2002, p. 2)

Feuer, Towne and Shavelson (2002), three of the NRC report's authors, described their thinking represented in the report in an article in one of education's leading journals, alongside a handful of invited responses. Among those responses, some authors focused on developing the key ideas presented in the article, such as "that legislative mandates reifying particular methodological approaches would be ill informed and misdirected" and "that building a professional community poses a substantial challenge that demands action not only by individual researchers but also by institutions of higher education" (Pellegrino & Goldman, 2002, p. 15). Others agreed generally with Feuer et al., yet took issue with the NRC committee's apparently uncritical acceptance of the charge "to define the scientific in educational research" which led the committee to produce

"a statement that risks being read as endorsing both the possibility and the desirability of taking an evidence-based social engineering approach to educational improvement nationwide" (Erickson & Gutierrez, 2002, p. 21). Erickson and Gutierrez conclude their commentary by reviewing the consequences "of not challenging the layperson's 'white coat' notion of science and replacing it with a more complicated and realistic view of what actual scientists do and the varied and complex methods and perspectives they employ in their inquiry" (ibid.).

Still others took a decidedly more critical approach to their response, seeing the NRC report as narrowly defining "science as positivism and methodology as quantitative. These definitions are made possible by the outright rejection of postmodernism and the rejection by omission of other theories including queer, feminist, race, postcolonial, critical, and poststructural theories" (St. Pierre, 2002, p. 25). Like Holmes, Murray, Perron and Rail (2006), St. Pierre's postmodern analysis illustrates "the danger of the report's normalizing and totalizing discourse" (St. Pierre, 2002, p. 25). She takes issue with the statement in the NRC report that reads: "We reject the postmodernist school of thought when it posits that social science research can never generate objective or trustworthy knowledge" (NRC, 2002, p. 25), with a footnote that elaborates: "This description applies to an extreme epistemological perspective that questions the rationality of the scientific enterprise altogether, and instead believes that all knowledge is based on sociological factors like power, influence, and economic factors" (NRC, 2002, p. 25). St. Pierre replies that "postmodernists and others might say that the idea that multiple observers can agree on what they see is also an extreme epistemological and ontological perspective and that a scientific researcher is pretty naïve not to believe that power, influence, and money affect what counts as knowledge" (2002, p. 25). Again like Holmes et al., she remarks that "it is often the

case that those who work within one theoretical framework find others unintelligible" (St. Pierre, 2002, p. 25).

The CEBP report, unlike the NRC report, is much more straightforward in its advocacy of RCTs: "Well-designed and implemented randomized controlled trials are considered the 'gold standard' for evaluating an intervention's effectiveness, in fields such as medicine, welfare and employment policy, and psychology … such trials should play a similar role in education" (CEBP, 2003, p. 1). An RCT (otherwise known as a randomized field trial) involves hypothesis testing about the causal effects of a treatment or intervention "by comparing the average outcome for individuals in the group who were randomly assigned to receive this intervention with the average outcome for individuals in the group who do not" (NRC, 2004, p. 1). Some of the strengths, limitations, and philosophical groundings of RCTs in social research are discussed below. Interestingly, the 2004 NRC report from which that definition comes is based on a workshop on implementing randomized field trials in education which itself was based on the 2002 NRC report. Boruch, one of the most avid promoters of the methodological supremacy of RCTs in educational research (Mosteller & Boruch, 2002), was an active participant in the workshop (NRC, 2004). If science does not proceed naturally but is rather the product of (and an example of) social relations, then noticing the roles and practices of individuals like Boruch becomes important. Boruch helps steer the Coalition of Evidence-Based Policy (CEBP), along with the group's president, Jon Baron, who has played a significant role in the ascendancy of the evidence-based movement in education. The mission of the CEBP offers a clear example of the discourse which positions RCTs as "the gold standard" and makes explicit the envy that the educational researchers involved display for (their perception of) medical science:

> In the field of medicine, public policies based on scientifically-rigorous evidence have produced extraordinary advances in health over the past 50 years. By contrast, in most

> areas of social policy—such as education, poverty reduction, and crime prevention—government programs often are implemented with little regard to evidence, costing billions of dollars yet failing to address critical social problems. However, rigorous studies have identified a few highly-effective program models and strategies ("interventions"), suggesting that a concerted government effort to build the number of these proven interventions, and spur their widespread use, could bring rapid progress to social policy similar to that which transformed medicine. (CEBP, 2011)

The gold standard, generalizability, and certainty. Given its dominance and centrality in "evidence-based" education discourse and practice, the RCT, so often presented facilely as the best possible research design for producing credible evidence (Slavin, 2002, inter alia), bids closer scrutiny. A thorough explication and historicization of the RCT methodology is beyond the scope of this study, yet because "the gold standard" is so central and dominant relative to this study's phenomena of interest, below I briefly present some contextual background on the rise of the RCT. As I suggest above, the "gold standard" debates raging around the proper place of RCTs in social research represent, in effect, a rekindling or new iteration of the "the science wars" about the (contested) relationship between "hard" and "social" sciences (Parsons, 2003) and "the paradigm wars" about the (contested) relationship between quantitative and qualitative research methodologies, especially as pertains validity and quality (Moss, Phillips, Erickson, Floden, Lather & Schneider, 2009). Through the EBM and evidence-based education debate, the pro-quantitative camp has added the alleged power of meta-synthesis to their arsenal.

In 2007, William Trochim presented a talk on the topic of the gold standard debates to the Cornell Evaluation Network. He introduced the topic by stating unequivocally that a lot is at stake. He framed the issue as "one of the most important controversies in contemporary evaluation and applied social sciences," claiming that it is "at the heart of how we go about trying to understand the world around us. It is integrally related to what we think science is and

how it relates to practice" (W. Trochim, unpublished speech transcript, September 10, 2007[7]). The term "gold standard" literally refers to the historical monetary system in which the standard economic unit is based on a fixed quantity of gold. Over time, the term has come to metaphorically mean the "best" of something. Its connection to particular research and evaluation methodologies can be traced back to the early twentieth century, when shifts from agricultural to industrial ways of life in the U.S. and in Europe were accompanied by a drive for more scientific management of agricultural, educational, and other pursuits. Trochim recounts how some of the first field experimentation in agriculture took place in Rothamsted, England, initiated by the burgeoning chemical fertilizer industries. Around the year 1916, the Rothamsted experiment station hired a statistician named R. A. Fischer. He would become a leading figure in the field of statistics and is credited as being the originator of the randomized experiment. Fisher recommended dividing a larger area of the field into smaller plots and using the mechanism of random assignment to decide which treatments should be applied to which areas—an approach that was "both simple and revolutionary." As Trochim describes, "Fisher demonstrated randomness had the ability to help us to tease out the effect of that particular intervention from all of the other potential confounding factors. In effect the intervention was made 'independent' of all those other factors."

In the fields of education and psychology, similar developments took place, led in part by Edward Thorndike's work on measurement and William McCall's work on experiments in education (1923). McCall's early work, however, did not involve randomization. By the 1930s and '40s, though, the developments in experimental agricultural research were also being applied in educational research. By the 1960s, Donald Campbell and his colleagues had become leaders

[7] The remainder of this section on the gold standard debate also draws from Trochim's unpublished transcript of the talk he presented to the Cornell Evaluation Network on September 10, 2007.

in the discussions around experimental methodology and causality; Campbell and his close colleague Tom Cook were perhaps the most influential early proponents of experimental and quasi-experimental designs in social scientific research (e.g., Cook & Campbell, 1979), later joined by their protégés William Shadish, and Robert Boruch. It is Campbell's name that was given to the Campbell Collaboration clearinghouse for evidence-based social programs and policies (which, as I indicate above, is somewhat ironic given the incommensurability of Campbell's evolutionary epistemology with the rigid empiricism and managerialism that inheres the Campbell Collaboration clearinghouse).

As pertains to the fields of education and evaluation, a thorough consideration of the methodological issues in the quest for credible evidence is provided in Donaldson, Christie, and Mark (2009), *What Counts as Credible Evidence in Applied Research and Evaluation Practice*. The text is presented in two parts, one containing chapters from authors who favor experimental approaches (such as RCTs) as the route to credible evidence and the other with contributions from authors who favor "nonexperimental" approaches. The definition of the latter half of the book by way of negation (grouping approaches by what they are not rather than what they are) "others" those approaches, and indexes the difficulty of engaging equally with the plurality of approaches discussed.

Yet despite that discursive red flag, the editors—prominent members of the field of evaluation—present a well-rounded perspective on credible and actionable evidence in the context of social programs. In framing the debate on credible evidence, Christie and Fleischer (2009) present the four categories of philosophical foundations represented: logical positivism, post-positivism, constructivism, and pragmatism, highlighting the ontological, epistemological, and methodological characteristics of all four paradigms. Henry (2009), like Donaldson (2009),

refers to a document by the U.S. Department of Education (2003) which was similar in tone and effect to the NRC and CEPB reports. The report privileges experimental and "strong" quasi-experimental designs in funding competitions to provide evidence of educational program effectiveness. This is the report that prompted the American Evaluation Association (AEA) to develop the policy statement mentioned earlier in this chapter. Henry presents his rationale for supporting use of RCTs when "getting it right matters;" interestingly (and ironically, according to critics of methodological hierarchies), he claims that "the methods-based approach is deeply rooted in the theory of representative democracy and the value that evaluation can bring to society" (Henry, 2009, p. 33). In the second half of the book, Rallis (2009) considers the ethical premises for credible evidence, adding the criterion of probity (integrity and uprightness) to balance criteria of rigor as they pertain to reasoning. Greene (2009) offers a harbinger of the theoretical framework of this study by premising her chapter "on the understanding that evaluation is both influenced by the political, organizational, and sociocultural context in which it is conducted and, in turn, serves to reshape and reconstitute that context in particular ways" (p. 153).

RCTs are one practice through which evaluation and research reconstitute contexts (and other realities.) The strengths, limitations, and philosophical groundings of RCTs in social research have been explicated on many occasions (Donaldson et al., 2009; Morrison, 2009; Scriven, 2008; Walters, Lareau & Ranis, 2009). Scriven (2008) provides a summative evaluation of RCT methodology. He points out the "effort at persuasive redefinition" of RCTs as "true experiments" and relates that discursive strategy to "the urge to create a new specialty, an esoteric cabal in which the originators have a privileged position as keeper of the keys to knowledge" (p. 12). Among his summative propositions, Scriven first claims that the RCT has

"essentially zero practical application to the field of human affairs" (2008, p. 12), especially because it is almost impossible to have a truly single-blind (let alone double-blind) study in social research; RCTs in education are "zero-blind." Scriven also points out that "the real 'gold standard' for causal claims is the same ultimate standard as for all scientific claims; it is critical observation" (p. 18). After considering a number of other weaknesses in the application of RCTs in education research, Scriven concludes, "This issue is not a mere academic dispute, and should be treated as one involving the welfare of very many people, not just the egos of a few" (p. 24).

One of Scriven's (2008) points is on the problem of generalizability:

> One cannot tell what the effect of the experimental treatment will be if administered outside the experimental context because you can't tell how much that context is adding to the effects. Hence generalizing from even a true RCT to real world use of the experimental treatment tested in the RCT is hazardous, and any true RCT study has to be supplemented with extensive high quality field reports on real world use. (p. 14)

Additional insight on this issue is offered by Fendler (2006), who historicizes generalizability to demonstrate that it "is a local phenomenon and not generalisable to other times and places" (p. 437), "a way of thinking that is historically specific to modernity and linked to modern projects of social governance" (p. 438). She claims that the What Works Clearinghouse standards for research: "confound induction and prediction; confuse probability with certainty; conflate science with social management" (Fendler, 2006, p. 438). Fendler questions the notions of prediction and certainty and the recursiveness of generalization, drawing examples from classical analytic philosophy, statistical modeling and histories of social science. She concludes by discussing newer approaches to research which do not seek generalizability (such as Bayesian and design studies) and which are "historically commensurate with post-analytical, post-empiricist and more pragmatic intellectual endeavors" (2006, p. 447). Along these lines, in 2013 Michael Scriven wrote and impassioned blog post on the EvalTalk listserv of AEA, essentially

providing an update to his 2008 paper on the methodological and philosophical flaws of RCT. In it, he writes,

> the leading theorists behind the whole push for RCT designs as the only solid basis (a.k.a. 'good evidence') for conclusions about the impact of interventions essentially gave the position up around a year ago, with the publication by Tom Cook of his heroic and exemplary reanalysis which now shows that the requirement of random allocation is NOT crucial, and by Will Shadish carefully showing that you don't need an n larger than 1 (!) OR any control group at all (!) in order to establish causation (i.e., case studies, well done and well analyzed, are valid evidence, along with any good interrupted time series design, as the critics of RCT have always insisted). (Scriven, 2013, May 29)[8]

Scriven has also engaged in public debate with RCT proponents like Cook, Mark Lipsey, and others on the methodological merits of RCTs and other designs aimed at establishing causality; edited transcripts of some of these debates have been published in the *American Journal of Evaluation* (e.g., Cook, Scriven, Coryn, & Evergreen, 2010; Donaldson & Christie, 2005).

Questioning tacit assumptions. The goal of tracing these debates related to the evidence-based movement in health and education is not to set the stage for some final evaluation, to be achieved through this study, of what constitutes credible evidence of non-formal program effectiveness; rather, it is to highlight the contingencies and nuances—the philosophical form and content—of the debates, to set the stage for an analysis of the politics they represent. Throughout the discussions reviewed above, there is a demonstration of both the plurality of ontological, epistemological, and methodological viewpoints involved, as well as the discord between so many of them. One scholar whose work helps focus this study on the epistemological and ontological assumptions at play in these debates is Biesta (2007a, 2007b, 2010b). In a special journal edition devoted to the issue of the research-practice gap in education,

[8] I contacted Dr. Scriven to ask for the citations of the Shadish and Cook publications to which he refers; unfortunately, he replied that he had recently moved offices and could not locate the citations. I conducted a brief search of the literature and identified a handful of recent articles in which both Shadish and Cook explore non-randomized designs which can yield causal claims (e.g., Pohl, Steiner, Eisermann, Soellner, & Cook, 2009; Shadish, 2011; Shadish, Rindskopf, & Hedges, 2008).

he problematizes that gap by reflecting on how the other authors frame it, especially what they assume about "research." They assume "that research produces knowledge and that (ideally) such knowledge should be used in educational practice and by educational practitioners" yet they do not address the question of "the different ways in which knowledge might be used and, more generally, the different ways in which educational research might be of practical relevance" (Biesta, 2007a, p. 296). Citing research conducted in The Netherlands in the 1980s, Biesta differentiates the technical role of education research ("the provision of technical, instrumental knowledge … finding, testing, and evaluating different ways of educational action" and the cultural role ("the provision of different interpretations and understanding of educational practice.") Research on social learning (Niewolny & Wilson, 2009), for example, has influenced educators' understanding of their work. Biesta posits that the research-practice gap refers to failures in relation to the technical role more so than the cultural role, and interprets this as resulting from fundamental flaws in the assumptions undergirding the technical role of education research. Technical research predicated on finding generalizable causal links between educational activities forgets or denies "that education is not a process of physical interaction but rather a process of symbolic or symbolically mediated action" (Biesta 2007a, p. 298, emphasis in the original). Biesta concludes, "Whereas the outcomes of research might play a role in professional judgment, they can only ever *assist* professional judgment and action but can never dictate what should be done" (ibid., p. 299, emphasis in the original).

In another paper, Biesta (2010b) highlights the role of normativity, power and values, proposing the idea of value-based education as an alternative for evidence-based education. He focuses on the "epistemological, ontological and praxeological dimensions of the discussion and in each domain identifies a deficit. In the epistemological domain there is a knowledge deficit, in

the ontological domain an effectiveness or efficacy deficit and in the practice domain an application deficit" (p. 491). In the epistemological domain, the deficit derives from the way in which "the case for evidence-based practices relies on a representational epistemology in which true knowledge is seen as an accurate representation of how 'things' are in 'the world'" (ibid., p. 494). Paraphrasing and building upon Dewey's critique of the "spectator view" of knowledge (in which experimentation of the world "out there" leaves both the world and the researcher unchanged), Biesta proposes a transactional epistemology, in which "the knowledge we can gain through experimentation is knowledge about relationships and, more specifically, about relationships between (our) actions and (their) consequences" (ibid., p. 495). In this framework, "knowledge is not a depiction of a static world 'out there'—in the traditional sense of the word such knowledge is not objective because we are involved in the production of it," not because we produce it in our minds but because it is "knowledge about the world in function of our interventions" (Biesta, 2010b, p. 495, emphasis in the original). The "knowledge deficit" emerging from representational epistemology relates to our actual inability to know, through experimentation, that "what works" now, in one context, will work in the future and in other contexts. In the ontological domain, the "effectiveness or efficacy deficit" results because "talk about 'what works' … operates on the assumption of a mechanistic ontology that is actually the exception, not the norm in the domain of human interaction" (Biesta, 2010b, p. 497). Although education is "an open recursive semiotic system," it is ontologically constituted in much EBP [evidence-based practice] discourse as a "closed deterministic system" (ibid.). Biesta discusses how efficacy is made at least remotely possible in such a complex system through processes of "complexity reduction;" he suggests that education researchers attend to how structures of complexity reduction—as social, political rather than natural phenomena—come about, and that

we thus admit questions of power and values into the conversation. Finally, in the praxeological domain, Biesta builds on Latour's discussions of how techno-science succeeds and moves by rendering the world to be more like the laboratory from which it originated (Latour, 1983). In this sense, Biesta refers to the "application deficit" of evidence-based practice to highlight that

> to think of the impact of modern science on society in terms of the application of scientific knowledge—which is central to the notion of evidence-based and evidence-informed practice—at least misses important aspects of what makes the application of such knowledge possible (particularly the work that is needed to transform the outside world so that knowledge becomes applicable) and perhaps even serves as an ideology that makes the incorporation of practices into particular networks invisible. (Biesta, 2010b, p. 499)

From this perspective, educational research must proceed with theoretical, methodological, and analytic approaches which can make visible such invisibilities. Specific to this current study, these explications of the often tacit assumptions that undergird the evidence-based program movement provide crucial perspectives on the details of practice in my three cases.

Science, Expertise, and Democracy

A centrally important constellation of invisibilities concerns the status of science and scientific knowledge in society. Scientists and non-scientists, scientific knowledge and everyday knowledge have always interacted, as long as "science" has existed. Yet the contours of those interactions bear closer scrutiny. A brief vignette helps show why: At a professional development workshop for middle and high school science teachers from around the country, the teachers discuss "scientific literacy." A defining characteristic of scientific literacy, according to the teachers, is being able to differentiate between science and non-science. Somewhat ironically, the teachers' discourse touches on the need for and benefits of critical thinking, yet also apparently leaves the demarcation of "scientific" and "other" ways of knowing somehow beyond the bounds, out of the reach of critical thinking.

Generally, middle school and high school science classes still teach "the scientific method" in ways that reproduce a flat, facile version of science. Even with the advent of inquiry-based, hands-on science pedagogy, it seems, caricatures of science are still propagated. The sociology, history, and philosophy of science—all of which comprise the field of science and technology studies (STS)—have gone a long way towards revealing the social particularities of science. For instance, as STS scholars have noted:

> There is something strange about science. Scientific inquiry takes place in highly specialized sites—high-tech labs, remote field stations, museum archives, astronomical observatories. It has also been pursued in coffee shops and cathedrals, in public houses and stock farms, on ships' decks and exhibition stages. And yet the knowledge that is acquired in these places is taken to have ubiquitous qualities. Scientific findings, to put it another way, are both local and global; they are both particular and universal; they are both provincial and transcendental. (Livingstone, 2003, p. 1)

Even at universities, though, it seems that only some advanced scholars and practitioners of science are more than just nominally aware of STS; among those who are aware, many feel attacked by and defensive towards STS. The depictions of the debates in biomedicine and education around evidence, research, and practice suggest that perspectives from STS would be relevant and helpful to this study. Instead of taking science's honorific status to be self-evident, STS scholars look more closely to examine the inner workings of various scientific processes. Guiding questions for this type of inquiry include: What makes scientific knowledge different than other ways of knowing? How did it get to be that way? In what ways does that differential status of scientific knowledge affect other social processes such as democratic action? Below, I review a selection of literature oriented towards exploring these questions. In the next chapter, I continue this discussion, presenting additional STS perspectives that specifically inform this study's methodology. This review of the literature is helpful and necessary in answering my research questions because, as I propose in chapter one, I must locate evidence-based education work within the broader ecology of evidence in which it is couched. Especially because

mandates to make non-formal education more evidence-based often appeal to (facile) notions of "scientific evidence," I find I must approach my inquiry with a theoretically nuanced lens. The review of the literature presented below represents my efforts to do just that.

Along with Latour and Woolgar's groundbreaking work, *Laboratory Life: The Construction of Scientific Facts* (1986), two other influential texts on the status of scientific knowledge are *Leviathan and the Air Pump* (Shapin & Schaffer, 1985) and *The Descent of Icarus* (Ezrahi, 1990). Shapin and Schaffer offer an historical study of "the nature and status of experimental practices and their intellectual products" (p. 3) by focusing on a controversy that took place in England in the 1660s and early 1670s between Robert Boyle and Thomas Hobbes:

> Boyle appears as the major practitioner of systematic experimentation and one of the most important propagandists for the value of experimental practices in natural philosophy. Hobbes takes the role of Boyle's most vigorous local opponent, seeking to undermine the particular claims and interpretations produced by Boyle's researches and, crucially, mobilizing powerful arguments why the experimental programme could not produce the sort of knowledge Boyle recommended. (p. 7)

The controversy centered on Boyle's use of air pumps in his pneumatic research. Through their focus on this controversy, Shapin and Schaffer examine the "historical circumstances in which experiment as a systematic means of generating natural knowledge arose, in which experimental practices became institutionalized, and in which experimentally produced matters of fact were made into the foundations of what counted as proper scientific knowledge" (p. 3). While air pump experiments are different sorts of experiments than the experimental and quasi-experimental trials advocated for by "gold standard" proponents, I posit that the same social dynamics are at play; Yet again, 350 years later, institutionalization of experimentally produced matters of fact are reified as the foundations of proper scientific knowledge.

In addition to their focal topic, elements of Shapin and Schaffer's methodological approach are also pertinent to this study. Self-evidence and circular reasoning can impede efforts

to examine the presuppositions of our own culture's routine practices: "The success of the experimental programme is commonly treated as its own explanation. … The member who poses awkward questions about 'what everybody knows' in the shared culture runs a real risk of being dealt with as a troublemaker or an idiot" (pp. 5-6). Contemporarily, Holmes, Murray, Perron & Rail (2006) and St. Pierre (2002) are dealt with as both. Continuing along those lines, Shapin and Schaffer suggest a strategy for analyzing not just the Hobbes-Boyle controversy, but also rejected knowledge in general: "We have a dismissal, the rudiments of a causal explanation of the rejected knowledge (which implicitly acts to justify the dismissal), and an asymmetrical handling of accepted and rejected knowledge" (p. 11). As an example of asymmetrical handling, Shapin and Schaffer cite numerous historical accounts in which Hobbes is said to have "misunderstood" Boyle's arguments (because he was too old, or poorly qualified in mathematics and physics, or was temperamentally obstinate and dogmatic, or had ideological axes to grind); yet "no historian has ever suggested that Boyle may have 'misunderstood' Hobbes" (p. 12). Another element of Shapin and Schaffer's approach that is highly relevant to my study include their treatment of "truth," "adequacy," and "objectivity" as "accomplishments, as historical products, as actors' judgments and categories" that are "topics for our inquiry, not resources unreflectively to be used in that inquiry" (p. 14). Yet another is their situating of controversies about scientific method in social context, by which they intend "to display scientific method as crystallizing forms of social organization and as a means of regulating social interaction within the scientific community" (p.14). An important way they achieve this intention is by foregrounding the discursive "language games" involved in making experimental knowledge to become matters of fact.

Other STS scholars are also interested in science's role in regulating social interaction; many expand the scope of their analysis to look not only at social organization within the scientific community but also in society in general. Ezrahi (1990) examines the political functions of science in the liberal-democratic state, the processes "through which science and technology have been harnessed to the development of modern liberal-democratic concepts of action, authority, and accountability" (p. 1). Expanding on this thesis, Ezrahi writes that

> attempts to fuse an instrumental concept of politics with a political commitment to a humanistic conception of freedom became one of the central features of the Western political tradition. As a result, the role of knowledge and technique in directing and justifying action has become central to modern Western liberal-democratic notions of authority, accountability, and order, thus providing independent political rationales for the uses of knowledge, or claims of knowledge, in public affairs. (p. 3)

"Inspired by the visions of the ideologues of the Enlightenment, such goals as the advancement and the diffusion of knowledge became integrated into liberal-democratic notions of political power checked by and accountable to an enlightened public," although, as Ezrahi points out, Hobbes, Jean-Jacues Rousseau, and Karl Marx, despite their differences, "share a common distrust of the use of science to rationalize public action and secure human happiness" (ibid.). The reference to the myth of Icarus in the title of Ezrahi's book is derived from Bertrand Russell's 1924 book, *Icarus, or, the Future of Science*. There, responding to J. B. S. Haldane's optimistic view of a future characterized by scientific discoveries that promote human happiness, Russell writes, "science is not a substitute for virtue … Technical scientific knowledge does not make men sensible in their aims … [and] science has not given an more self-control, more kindliness or more power of discounting their passions" (quoted in Ezrahi, 1990, p. 4).

This perspective is echoed in Richard Bernstein's (1983) *Beyond Objectivism and Relativism: Science, Hermeneutics, and Praxis*. The epigraph to that book's first section is a quote from Hilary Putnam's *Meaning and the Moral Sciences*:

> I think that Aristotle was profoundly right in holding that ethics is concerned with how to live and with human happiness, and also profoundly right in holding that this sort of knowledge ("practical knowledge") is different from theoretical knowledge. A view of knowledge that acknowledges that the sphere of knowledge is wider than the sphere of "science" seems to me to be a cultural necessity if we are to arrive at a sane and human view of ourselves or of science. (quoted in Bernstein, 1983, p. 1)

Putnam is referring to Aristotle's classification of knowledge presented in *Nicomachean Ethics* and *Politics*. That typology is also discussed by Flyvbjerg (2001), who distinguishes between three types of knowledge this way: *episteme* "concerns universals and the production of knowledge which is invariable in time and space" (p. 55); *techne* is "craft and art, and as an activity it is concrete, variable, and context-dependent" (p. 56); *phronesis* is "prudence" or "practical common sense" and involves ethics and "deliberation about values with reference to praxis. [It is] pragmatic, variable, context-dependent" (p. 57). Bernstein proceeds to juxtapose and synthesize related insights from three seemingly disparate texts, all of which have bearing on the issues raised by Ezrahi, Russell, Putnam, and others. The texts are Paul Feyerabend's *Against Method*; Hans-Georg Gadamer's *Truth and Method*; and Sheldon Wolin's essay "Political Theory as a Vocation":

> All three develop radical critiques of the intellectually imperialistic claims made in the name of Method. Feyerabend seeks to expose and ridicule the belief that there is a determinate scientific method that guides the way in which science and living scientists really work. He is critical of the "deification" of science in contemporary life. Gadamer, who barely discusses natural science, argues that the modern obsession with Method has distorted and concealed the ontological character of understanding. Wolin explicitly attacks the *vita methodi* (which he contrasts with the *bios theoretikos*) and argues that it has deformed our understanding of politics and political judgment. As they probe the various aspects of the tyranny of Method, it becomes increasingly clear that they are raising profoundly critical questions about the categories, distinctions, and biases that have shaped our culture and our everyday lives since the seventeenth century. Each, in his own way, seeks to come to grips with what he takes to be the fundamental intellectual crisis of our time. But the similarities revealed in these diverse texts go further than a common attack on the very idea of Method. Each of them opens the way to a more historically situated, nonalgorithmic, flexible understanding of human rationality, one which highlights the tacit dimension of human judgment and imagination and is sensitive to the unsuspected contingencies and genuine novelties encountered in particular

> situations. Their technical analyses are also animated by a practical-moral concern with the threats to, and the prospects for, human judgment and imagination. (p. xi)

In this study, I examine the deification and fetishization of one particular method, the RCT. In the everyday practices of evidence-based education work, I see people using human judgment and imagination to deal with the "unsuspected contingencies and genuine novelties encountered in particular situations," in spite of the hegemonic power of RCTs to shape their lives.

Another helpful perspective on the constitutive role of science and method in shaping lives is presented in a volume edited by Sheila Jasanoff (2004a). The book's central argument is that "we gain explanatory power by thinking of natural and social orders as being produced together" (Jasanoff, 2004b, p. 2). Co-production "is shorthand for the proposition that the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it" (ibid.). Elaborating on this point, Jasanoff writes,

> Knowledge and its material embodiments are at once products of social work and constitutive of forms of social life; society cannot function without knowledge any more than knowledge can exist without appropriate social supports. Scientific knowledge, in particular, is not a transcendent mirror of reality. It both embeds and is embedded in social practices, identities, norms, conventions, discourses, instruments and institutions—in short, in all the building blocks of what we term the *social*. The same can be said even more forcefully of technology. (ibid., pp. 2-3, emphasis in the original)

The book's title is a double entendre: several contributors are interested in "how knowledge-making is incorporated into state-making, or of governance more broadly, and, in reverse, how practices of governance influence the making and use of knowledge"; but the title also plays on the theme of knowledge as "crystallizing in certain ontological states—organizational, material, embodied—that become objects of study in their own right" (ibid., p. 3).

Another related set of perspectives on the status of scientific knowledge and the constitutive interplay between science and the rest of life can be grouped by their shared emphasis on the relations between expertise and democracy. This body of scholarship echoes

Ezrahi's analysis of the ways in which "diffusion of knowledge became integrated into liberal-democratic notions of political power checked by and accountable to an enlightened public." For example, Sassower, in *Knowledge Without Expertise: On the Status of Scientists* (1993), examines an attack on Section F—Statistics and Political Economy—of the British Association for the Advancement of Science (BAAS) in 1877. Economics was a young discipline involved in a quest for scientific legitimacy; in brief, it was attacked for being too social and not scientific enough. In presenting this conflict, Sassower reflects on the nature of scientists as experts, which he relates to the establishment of dichotomies which inevitably become hierarchies:

> Setting dichotomies of disciplines or of methods of inquiry, demarcating between discourses, is a way not only of setting up hierarchies but also of explaining and justifying the privileged position of expertise. The etymology of "expertise" shows that there is a difference not only between experts and non-experts, but also between theoretical and technical expert "know-how," where the theoretical level is more important than the practical (no matter how they are respectively defined). (Sassower, 1993, p. 54)

Guided by Jean-François Lyotard, Sassower traces the traditional dichotomy (and hierarchy) of philosophy and sophistry to show that dichotomies turn into hierarchies. Contemporarily, proponents who dichotomize research methods as "rigorous"/other, or as randomized/"non-randomized" also create or reinforce knowledge hierarchies, whether they wish to or not.

Jasanoff and colleagues, in a special issue of *Social Studies of Science*, provide commentary articles on a paper by H. M. Collins and Robert Evans, "The Third Wave of Science Studies" (Jasanoff, 2003; Rip, 2003; Wynne, 2003). The Collins and Evans paper is based on the question: "Should the political legitimacy of technical decisions in the public domain be maximized by referring them to the widest democratic process, or should such decisions be based on the best expert advice?" (Collins & Evans, 2002, p. 235). Against Collins and Evans' claim that Wave Two science studies erases or invalidates the existence of boundaries between experts and others in society, Jasanoff sees an invitation

> to take the boundaries themselves as entry points for inquiry into the relations between science and power, to ask how they come about, and what functions they serve in channeling both knowledge and politics. The questions that loom as interesting, then, have to do with: the nature of categories and classifications (as in the influential work of Michel Foucault and Ian Hacking); with the agents, instruments and processes that produce these classifications; with patterns of inclusion and exclusion on either side of the line of expertise; and with the influence of history and culture on the drawing and redrawing of these kinds of boundaries. The project of looking at the place of expertise in the public domain appears in this light as a project in political (more particularly democratic) theory, with epistemological questions embedded in it, but not wholly reducible to epistemology. (2003, p. 394)

Collins and Evans' efforts to draw a distinction between the scientific and political phases of decision-making "seem at best naive and at worst misguided":

> To label some aspects of society's responses to uncertainty 'political' and some others 'scientific' makes little sense when the very contours of what is certain or uncertain in policy domains get established through intense and intimate science-society negotiations. There is, too, a forced linearity in the authors' suggestion that, once the politics of a situation have been properly sorted out, the 'real' science can proceed, independent of further political influence. Insulation of this kind is simply unthinkable if, wherever one cuts into decision-making processes, one finds a hybridization of science and politics as these terms are conventionally understood. Nor is there an objective Archimedean point from which an all-seeing agent can determine who belongs, and who does not, within the magic ring of expertise. (Jasanoff, 2003, p. 394)

Like Sassower, Jasanoff foregrounds problematic dichotomizations, critiquing the "either-or" formulation of Collins and Evans' guiding question about democratic or expert decision-making: "We need both strong democracy and good expertise to manage the demands of modernity, and we need them continuously. The question is how to integrate the two in disparate contexts so as to achieve a humane and reasoned balance between power and knowledge, between deliberation and analysis" (Jasanoff, 2003, p. 398).

Another scholar who has dedicated considerable effort to understanding the nature and role of expertise in democratic society is Frank Fischer (1980, 2000, 2009). In essence, Fischer's project is concerned with understanding and responding to the "dilemma of the relation of expertise and democracy" (Bender, 1993, p. 128). In *Citizens, Experts, and the Environment*, he

examines the ways in which "the deliberations of ordinary citizens can have important—even, at times, essential—impact on environmental problem solving. Not only can they help in searching for solutions to pressing environmental problems, but they can also contribute to a kind of knowledge—in particular, local knowledge—that the professional expert requires" (Fischer, 2000, p. xii). Evoking Dewey—whose *Democracy and Education* (1916) is salient to this discussion—Fischer laments the elite technocratic role assumed by many professional experts: "Rather than adopting the role of teacher or educator, as Dewey had hoped they would, experts have largely set themselves off from the mass citizenry" (ibid., p. 7). He focuses especially on citizen and expert tensions around environmental risk[9] and shows how postpositivist theory challenges the scientific expert's methodological emphasis on "generalizable knowledge."

Leach, Scoones, and Wynne, (2005a) are the editors of a volume, *Science and Citizens: Globalization and the Challenge of Engagement*, that builds on and adds to Fischer's work around citizen engagement in environmental risk issues. Broadly speaking, it offers an exploration of the various ways issues of knowledge, practice, agency, and expertise are understood. Contributors include Fischer, on practical reason, and Visvanathan, on cognitive justice, an idea I present in greater detail below. The book is innovative in that it encourages a conversation between STS and development studies scholars. In the introductory chapter, the editors tacitly refer to the idiom of co-production: "Politics and citizenship are themselves ever more intimately connected with the subtle shaping of human subjectivities that form the cultural undergrowth and underpinnings of the forms of politics of late-modern, globalized times" (Leach, Scoones, and Wynne, 2005b, p. 3). They mention the need for a healthy skepticism about established analytical categories, a skepticism I operationalize through this dissertation:

[9] There is a potentially fruitful parallel to explore between Fischer's treatment of risk—based largely on Beck (1992, 1999)—and the discourse of "at risk-youth" in the context of non-formal youth development work. Unfortunately, exploring that parallel is beyond the scope of this study.

> Along with the recognition of the ways in which scientific discourses and notions of human agency and citizenship have long been tacitly intertwined and mutual, these proliferating encounters force us to break down established analytical categories to recognize new synergies between expert and lay knowledges, new linkages between local and global processes, new relationships between state and non-governmental action, new networks of international activism, and a variety of hybrid forms of public and private control and ownership that frequently transcend national boundaries. (ibid.)

The editors reflect on the theoretical realization that 'cognitive' interactions are much more than just that; they are also "encounters between different practical-cultural *ways of being* as well as ways of knowing—ontologies" (ibid., p. 4, emphasis in the original). Leach, Scoones, and Wynne write about performing citizenships:

> knowledge, including scientific knowledge and especially scientific knowledge as deployed in public arenas, is inalienably cultural in that it embodies, reflects and projects commitments of a human kind, which also shape human relations and identities, imagined communities and ontologies. These explicit representational forms also, in a performative manner, tacitly project into the public domain normative models of the human that become part of the cultural repertoire and thus have influence over real emergent human behavior, human relations and human imagination. (p. 13)

It is "the tacit provisional performance of human ontologies in the making" (ibid.), what Law and Lien (2013) call the choreographies of practice (also, see Thompson, 2007).

While he does not use those particular terms, Steven Epstein, in effect, analyzes the complex choreographies of expert and lay knowledge practices in the context of the AIDS epidemic in the U.S. His book, *Impure Science*[10] (1996), "is a study of how varied classes of AIDS experts, diverse conceptions of scientific practice, and distinct claims of knowledge about AIDS have all been generated out of relationships of conflict and cooperation" (p. 2). Epstein seeks to learn about how knowledge emerges out of credibility struggles, to identify

> the pathways by which specific beliefs and spokespersons have become accredited as authoritative: How is certainty constructed—or deconstructed? How are scientific

[10] Interestingly, there is another book by the same title (Bell, 1992), about "fraud, compromise, and political influence in scientific research," part of a large body of work on that topic (e.g., Friel, 2010; House, 2008, 2011). Amid popularized stories of gross fraud (e.g., Dutch social psychologist Diederik Stapel; German physicist Jan Hendrik Schön, etc.), scientists often think STS critiques are based on out-of-proportion analyses of those few "bad apple" scientists—on the contrary, STS is primarily concerned with the workings of everyday, "good" science.

> controversies adjudicated? How are debates closed, and what is the character of that closure? Who becomes an "AIDS expert" and by what means? In short, how is the linkage of power, knowledge, and order forged in the United States in the context of the AIDS epidemic? (pp. 2-3)

One of the most interesting stories in Epstein's book is about "a knowledge-empowered movement" comprised of groups of community physicians and activist patient groups who banded together to design their own clinical trials. They pioneered "new forms of knowledge-making" and turned the ethical standards and norms of clinical trials on their heads (p. 216).

To analyze the social construction of AIDS expert reality, he uses the notion of "framing." Frames "impose order upon experience—but never arbitrarily or neutrally"; they are "principles of selection, emphasis, and presentation composed of little tacit theories about what exists, what happens, and what matters" (p. 24). Framing can be a strategy to work towards credibility: "To engage in the politics of knowledge, individuals and groups must be able to present themselves as credible representatives of social interests and engage in the framing of reality through techniques of representation" (p. 25). For his time, Boyle had very advanced techniques of representation to frame reality so as to render his experimental knowledge credible; today, the RCT and evidence-based education movement does too.

Epistemic justice. In the section above, I have presented numerous ways to think about knowledge hierarchies. Relatedly, recent years have witnessed the development of a practical theoretical movement concerned with uncovering, deconstructing, and working to replace unjust knowledge hierarchies. As such, it offers an invaluable and highly salient perspective on this study's phenomena of interest. Epistemic justice, sometimes referred to as cognitive justice, was articulated first by scholars and activists (and activist-scholars) from the global South. In essence, epistemic justice refers to "the constitutional right of different systems of knowledge to exist as part of dialogue and debate" (Visvanathan, 2005, p. 92). Stephen Toulmin wrote a

preface—which he titled "How Reason Lost its Balance"—to a volume edited by one of the earliest proponents of epistemic justice, Bonaventura de Sousa Santos. In that preface, Toulmin explains that epistemic justice "has to do with the coexistence of many knowledges in the world and the relation between the abstract hierarchies which constitute them and the unequal economic and political power relations which produce and reproduce increasingly more severe social injustice" (Toulmin, 2007, p. xv). Epistemic justice is frequently explicitly associated with social justice (Code, 2008; Dotson, 2008; Fricker, 2007). This relates to Visvanathan's statement that "One has to realize that epistemology is not a remote, exotic term. It determines life chances" (2005, p. 84). Epistemic justice is also frequently associated with "alternative" knowledge-generating endeavors that match its purposes, such as decolonizing methodologies (Linda Tuhiwai Smith, 2012) and Participatory Action Research (PAR) (Fals Borda, 2001).

Unsurprisingly, epistemic justice scholars are well-versed in—and contribute to—many of the debates about scientific and expert knowledges discussed in chapter two. For instance, de Sousa Santos (2007) lays out a series of hypotheses (which read more like directives or, perhaps, prophetic visions) that connect well with the STS perspectives on knowledge presented above:

> (1) the distinction between natural and social sciences is beginning to seem meaningless; (2) the social sciences will be the catalyst of the necessary synthesis between them; (3) to achieve this synthesis the social sciences must reject all forms of empirical or logical positivism or of mechanistic idealism or materialism, thus bringing back to the center of knowledge what is conventionally called the humanities; (4) the synthesis I have in mind does not aim at a unified science or even at a general theory, but merely at a set of theoretical aqueducts into which can converge various currents which have hitherto been considered theoretically separate; (5) to the degree that such a synthesis is achieved, the hierarchical distinction between scientific and common sense knowledge will gradually disappear. (pp. 15-16)[11]

[11] de Sousa Santos' comments evoke the controversy around C. P. Snow's (1959/2007) *The Two Cultures* claims—and their subsequent critiques (Gould, 2003)—regarding the relation of science and the humanities. Interestingly, one of my interlocutors referred to Snow during our interview.

I first learned about epistemic justice from John Gaventa, a well-known figure in the fields of PAR, community organizing, and community education. To conclude this brief section on epistemic justice, I reproduce a story written by Gaventa (who is an excellent story teller). This story clearly represents (the need for) epistemic justice and also serves as a segue into a discussion of regimes of truth and ontological politics:

> I have a friend, an activist, worker, and former coal miner who knows and loves the Appalachian mountains as well as anyone in my acquaintance. Over the last two decades, he has become his own self-taught "expert" on the ravages that strip-mining have gouged into the countryside. A "mountain man," he has spent hours walking the hills, observing the destruction of wildlife, streams, and natural soil cover. Though he does not have a college education, he has studied the laws and scientific literature on mining, and the economics and history of mining, so that he can educate others and struggle against the technology which has taken jobs, destroyed farms, and endangered his way of life. His knowledge derives from vast experience and self-education, though it lacks the credentials that a degree or a government office might bring.
>
> One day, this friend asked the appropriate government inspector to file a complaint against what appeared to be a clear violation of the law. Though weak and gutted by special interests, the law clearly says that muck and debris from strip mines shall not be deposited directly into streams. My friend had discovered a major slide of silt running from a mine into a nearby stream on the mountain above his home, endangering the aquatic life and increasing the likelihood of flooding.
>
> The government inspector possessed a knowledge very different from that of my friend. A recent product of the state university, he was now a certified geologist. A junior post in a state regulatory agency helped to ordain his knowledge as "official." His knowledge of the countryside was not personal and firsthand, but acquired through maps and textbooks based, one supposes, on science. Unlike my friend, his was a knowledge of expertise, not of experience.
>
> He accompanied my friend to inspect the mine on the basis of this expertise—as required by law. My friend showed him the silt oozing into the water. As also provided for by the law, he exercised his right as a citizen by asking the inspector to file a complaint against the responsible mining company. The expert official studied the situation. He drew out his maps and documents. And then he said, "I'm sorry, I cannot take action. According to my map, there is no stream there." (Gaventa, 1993, pp. 21-21)

Regimes of truth. Foucault, long interested in "the political status of science and the ideological functions which it could serve" (1980, p. 109), focused many of his studies (in one way or another) on truth, power and knowledge. He asks, "How is it that at certain moments and in certain orders of knowledge, there are these sudden take-offs, these hastenings of evolution,

these transformations which fail to correspond to the calm, continuist image that is normally accredited?" (ibid., p. 112). His question is about the rules of the production of true and false, "a question of what governs statements, and the way in which they govern each other so as to constitute a set of propositions which are scientifically acceptable, and hence capable of being verified or falsified by scientific procedures" (ibid.). Foucault would like, "in short, to resituate the production of true and false at the heart of historical analysis and political critique" (2000, p. 230). In other words, "the essential political problem for the intellectual is not to criticise the ideological contents supposedly linked to science, or to ensure that his [sic] own scientific practice is accompanied by a correct ideology, but that of ascertaining the possibility of constituting a new politics of truth" (1980, p. 133). The politics of truth, the processes of the organization and management of what is capable of being verified or falsified by scientific procedures, are central to critical discussions of how "evidence-based" education functions.

Discussing the "political economy of truth," Foucault describes his notion of "regime of truth":

> Each society has its regime of truth, its "general politics" of truth: that is, the types of discourses which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true. (1980, p. 131)

He goes on to list important traits which characterize the political economy of truth, including the way "'truth' is centered on the form of scientific discourse and the institutions which produce it," how "it is subject to constant economic and political incitement," how it is diffused and consumed through "apparatuses of education and information," how it is produced and transmitted under the control of the university, the army, writing, the media, and how "it is the issue of a whole political debate and social confrontation ('ideological' struggles)" (Foucault, 1980, p. 132).

Given this definition, the application of the analytic notion of regime of truth to domains of knowledge production and use in medicine and in education is understandable and highly warranted. As seen above, some critics of evidence-based practice in medicine have drawn on this notion (Holmes, Murray, Perron & Rail, 2006), much to the derision of many of their colleagues. In education, Issit (2007) explores "the figure of the autonomous learner, the epistemology of evidence-based research and the scientific idea of metacognition" as interweaving discourses in a regime of truth (p. 392). Simola, Heikkinen and Silvonen (1998) empirically apply Foucault's "history of truth" to the history of modern Finnish education, focusing on the interconnected themes of knowledge, subjectivity, and power. Wilson (1999) uses Foucault's analysis of knowledge-power regimes to show how adult education programs "contribute directly to forming cultural identities that support dominant relations of power" (p. 85). In her book, *The Struggle for Pedagogies*, Gore (1993) presents and analyzes discourses of critical and feminist pedagogy as regimes of truth. In doing so, she touches on other salient Foucauldian concepts, such as his conception of power (as exercised rather than possessed, as circulating everywhere as if through capillaries, as generative as well as repressive); the relations of power and knowledge ("power and knowledge directly imply one another … There is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations" (Foucault, 1977, p. 27); and "technologies of the self" (societal mechanisms of internalized invisible disciplinary power). All of these concepts are pertinent and analytically helpful given the problematic and the purpose of this study.

In summary, this chapter has provided a wealth of contextual information and theoretical perspectives on the "ecology of evidence" in which this study's three cases are located. These

perspectives facilitate a more thorough and nuanced analysis of efforts to make non-formal education more evidence-based. In addition to these theoretical perspectives, in the next chapter I present the methodological perspectives and approaches that guide the empirical aspects of this project.

CHAPTER THREE

METHODOLOGY AND METHODS

Methodological decisions should be driven by the study's research questions and theoretical framework, both of which themselves are derived in large part from the researcher's epistemological and ontological positions (Pascale, 2011), although, for better or worse, the researcher's disciplinary norms, training, and intended audiences also play a role in the selection of methods. In crafting and articulating the four research questions that focus this study, I delineated and characterized my "object" of inquiry: the work processes involved in supporting the implementation of evidence-based programs and in related efforts to make non-formal education more "evidence-based." I am interested in these processes. I am also interested in the effects of these processes on non-formal education and non-formal educators (and, distally, on people who participate in and purportedly benefit from non-formal education programs, glossed as "learners.") I believe that these phenomena exist, that they are important, and that there are multifarious ways to seek to generate knowledge or come to better understand them.

About their existence and their importance, I find it more helpful to approach these phenomena ontologically as *relations* rather than as *objects*. About ways of knowing about them, it follows, I find it epistemologically sensible and ethical to see myself as a situated, interested actor involved in constituting these phenomena. Through this study, I open up some ways of knowing about them (and constituting them) through the methods I employ. These ways of knowing should themselves be situated in a plurality of other ways one could come to know (and constitute) these phenomena through other methods and research designs. In eschewal of the great quantitative-qualitative paradigm wars, my epistemological position embraces the

methodological plurality discussed by Greene (2007, 2013), although neither Greene nor I naively think that embracing plurality somehow levels the political playing field of methodology—epistemological and institutional hierarchies persist. A social, relational ontology and a situated, pluralist epistemology are not uncommon across (some areas of) the social sciences.

In this study, I draw methodological inspiration and guidance from two constellations of approaches which favor such ontological and epistemological perspectives, namely institutional ethnography (IE) and science and technology studies (STS). The former is a relatively well-bounded methodology (with feminist, Marxist foundations and proclivities, developed primarily by Dorothy Smith [1987, 2005, 2006] and her students at the Ontario Institute for Studies in Education at the University of Toronto) that uses a variety of methods to perform sociological ethnography focused on everyday work (broadly understood) in institutional settings (also broadly understood) so as to reveal, explicate, and hopefully change the "ruling relations" of that context and of society more generally. The latter, STS, is a much broader and more diverse set of approaches to doing inquiry. Within that field, approaches used in medical anthropology and the sociology and (empirical) philosophy of science are helpful here. Below, I explore these methodological constellations in an effort to represent aspects from those lines of work that I included in my own methodological assemblage.

This assemblage drives and justifies the particular data collection and analysis methods I selected. While it would have been much tidier to just choose one methodology and stick to it ("I am doing institutional ethnography," or "I am doing phenomenology," or "I am doing narrative inquiry," or "I am doing concept mapping"), I instead followed John Law's (2004) lead in embracing mess in social science. In exploring these methodological constellations, I looked for

guidance about how to study, how to learn about and tell a credible story about, how to paint the best picture of intermediary "evidence-based" education work. In crafting this assemblage, I wondered: How do I approach what people say they do and what they (seem to actually) do? Especially as pertains to my fourth research question, how can I make claims about how this work over here constitutes that education over there (i.e., what causal inferences can I possibly make, with what warrant)? How do I focus both on local, small scale phenomena and extra-local macro-phenomena? How do I attend to agency and structure and how they interact? How do I get a view that is not just a snapshot in time but instead allows me to see the temporality and historicity of phenomena? How do I justify defining the boundaries of my contextual cases? How do I negotiate figure-ground interplay? How do I see how power relations are influencing what happens and what doesn't happen? How do I address problems of representation (including the reflexivity of self-representation) in my presentation of this study? To what extent do I enter this work with preconceived notions and to what extent am I open to surprises? These are just a few of the questions I had in mind as I turned to IE and STS for guidance.

As mentioned above, this study is empirically focused on enacted, embodied, lived practices; on social relations. It attends to the assumption that things are actions. It is an attempt to historicize and problematize apparently self-evident categories, "making visible a singularity at places where there is a temptation to invoke a historical constant, an immediate anthropological trait, or an obviousness that imposes itself uniformly on all" and help rediscover "the connections, encounters, supports, blockages, plays of forces, strategies, and so on, that at a given moment establish what subsequently counts as being self-evident, universal, and necessary" (Foucault, 2000, p. 226). It picks up on processes of "complexity reduction" (Biesta, 2010, p. 497) or "method assemblages" that necessarily craft complexities and simplifications as

part of making and condensing realities (Law, 2004, p. 107). Ideally, it makes visible the processes by which techno-science succeeds and moves by rendering the world to be more like the laboratory of its origin. It is sensitive to "the seepage of language and meaning from one domain to another" and examines "the uses to which [moving] models are put" (Longino, 1993, p. 115). Finally, I hope it serves as "an excavation of the conditions of possibility or impossibility and therewith the origins, extents and limits of its object" (Sayer, 1987, p. 131), granting insight into the social relations of how non-formal education and learners are ontologically constituted through evidence-based education work and other expert-driven attempts at connecting research and practice. Below, I first introduce the rationale and the procedures for drawing from IE. Then, I bring to bear some methodological insights from work in STS that I identified as pertinent to this study.

Institutional Ethnography

Institutional ethnography is a sociological ethnographic approach that empirically investigates the "linkages among local settings of everyday life, organizations, and translocal processes of administration and governance … a complex field of coordination and control … [referred to] as 'the ruling relations'" (DeVault & McCoy, 2006, p. 15). "Ruling relations" are similar to regimes of truth which are partially responsible for enacting certain material realities and not others. The methodology, primarily developed by Smith (1987, 2005, 2006), is committed to discovering "how things are actually put together" and "how it works." Smith emphasizes the importance "of encountering the actualities of people's everyday lives, of research that discovers the social as the ongoing coordinating of people's activities, and of the researcher as being changed in the dialogic of research" (Smith, 2006, p. 2). Often using interviews, participant observation, and discourse analysis, the reach of institutional ethnography

"goes from where actual people are in their own lives, activities, and experiences to open up relations and organization that are, in a sense, actually present in them but are not observable" (ibid., p. 4). Although Smith and other proponents urge starting with lived experience rather than theory (akin to some versions of grounded theory), theory is a large part of institutional ethnography. For instance, Smith (2005) draws widely from social and linguistic theory.

A key step in institutional ethnography is identifying or developing a problematic (a term Smith borrowed from Althusser), which involves anchoring the ethnography in people's actual experience and projecting beyond the local to discover the social organization that governs the local setting (Smith 2005, p. 41). Additionally, the researcher tends to have some reflexive experiential relation with some aspect of the problematic, which, for me in this case, is partially represented in chapter one.

Science and Technology Studies

From the perspective of STS, Latour and Woolgar's now classic text, *Laboratory Life: The Construction of Scientific Facts* is often regarded as important not only because of the claims it makes but also because of its method: anthropological and sociological participant observation in a laboratory setting. Many of the authors' reflections on method are applicable in my context. For instance, they propose that not only are thought processes readily amenable to sociological analysis, but that "an important focus of study should be the aspects of scientists accounting practices through which thought processes are created and sustained" (Latour & Woolgar, 1986, p. 174). In my study, I am interested in the actions of study participants, but also the thought processes connected to those actions. In the Postscript to the 1986 edition, Latour and Woolgar reflect on their use of ethnography and on the role of reflexivity in their study. Their version of ethnography was useful to them, they write, especially because it helped them

maintain “analytic distance upon explanations of activity prevalent within the culture being observed” (ibid., p. 278). In other words, it helped them determine how facts acquired their facticity, rather than leading them to produce “an account which explained scientists’ activities in terms of the facts they discovered” (ibid.). Another advantage they ascribe to ethnography is how, “unlike many kinds of sociology (especially marxism [sic]), the anthropologist *does not know* the nature of the society under study, nor where to draw the boundaries between the realms of the technical, social, scientific, natural, and so on” (ibid., p. 279, emphasis in the original). In my case, I cannot claim to not know the contexts under study, although, as I discovered during the course of the study, aspects of those contexts were completely new to me (i.e., how one supports the implementation of EBPs) and I am convinced that through this study I have seen even the familiar aspects of these contexts in new ways.

Similar to Latour and Woolgar’s discussion of accounting practices, Convert (1992) builds on the work of Mulkay to foreground “how dualisms are created in and through actors’ discourse. Mulkay thus suggests that distinctions between ‘cognitive’ and the ‘social’ or between reality and its representation are the outcomes, rather than the conditions, of scientists’ actions” (p. 136). It follows that peoples’ “asymmetrical accounting” (p. 150) and vocabularies of justification (explaining correct and incorrect beliefs) could and should be positioned as object of study—harkening back to the discussion of *Leviathan and the Air Pump* and related texts in chapter two. Asymmetrical accounting practices and vocabularies of justification are the scientists’ interpretive resources, “and the sociologist’s proper task is to investigate when, how, and for what purposes they are put to use” (p. 137). In my approach, through all three methods, I look for the presence and effects of asymmetrical accounting practices.

Also in similar fashion, Lindenbaum and Lock (1993) characterize this approach to empirical inquiry as "determining the processes by which certain forms of knowledge achieve a moral legitimacy and appear to be part of the natural order" (p. xiii). Mol and Berg (1998) discuss how:

> instead of departing from preestablished truths or norms, [some scholars] wonder how truths and norms get established. Instead of attempting philosophical judgments from an outside vantage point, they try to dissect from the inside, and by empirical means. At that point, both truth and norms start to look like parts of ongoing practices, mobilized in specific situations by some participants and not others. And their multiplicity appears to be overwhelming. (p. 6)

Given this multiplicity, Mol and Berg encourage looking at difference and diversity not as hiding some fundamental unity or as signaling the triumph of liberal pluralism, but as constituting questions requiring investigation. The studies in their edited volume *Differences in Medicine* (Berg & Mol, 1998) "show both unifying and disruptive forces; both continuities and discontinuities. They point at *tensions* among shaping practices, bodies, and lives in various diverging ways: tensions between making the world run in this, rather than some other way" (Mol & Berg, 1998, p. 7, emphasis in the original). That point highlights the political content of the studies they discuss, not just within the politics of method or theory, but within the very objects of inquiry:

> A medicine full of tensions *contains* politics, in the way that disease is established, the body is touched, patients are treated, cells are counted, and problems are solved. How exactly might such a "politics inside medicine" be understood? We do not have ready answers. Class struggle, the war between the sexes, professional competition, clashes between cultural systems—none of these satisfy as theoretical *passe-partouts* these days. Specificity and complexity have replaced overall explanatory models. Thus, instead of giving broad answers that promise too much and achieve too little, we will modestly explore specific and complex cases of difference in medicine. (ibid., p. 8)

In my case, a research-practice gap in non-formal education full of tensions contains politics. On working with one or two specific, complex cases, I am left wondering about the reach of the work, how it might be "generalizable" in some sense of the term (which may appear

to be ironic, given the critique of generalizability offered in chapter two). Mol presents some interesting guidance on this question. In seeking to "unravel the details of specific cases," she is not attempting to uncover all the possible facts:

> The *empirical philosophy* with which I am concerned is quite different in its aim. It holds that insight in a specific case makes it easier to make sense of the next one. A vocabulary developed while relating one story may prove useful in framing the next. Patterns may slowly be discerned, even though they necessarily remain fuzzy, even when each new study—if it is any good—yields new surprises. So instead of writing about "innovations" in general or about "medical innovations" or about just a single innovation, I take a single case and use it as a way of exploring *how to characterize the relations between new techniques and their old neighbors*. (Mol, 1993, p. 108, emphasis in the original)

A focus on discreet cases within biomedicine or science, or even a focus on those larger fields, can also analytically "generalize" to larger-scale statements. Lindenbaum and Lock (1993) write that "while at first glance it may seem that 'biomedicine' or 'science' is our target, these are but way stations en route to a more distant goal, an identification of the processes by which dominant voices and institutional forms come to exercise their control" (p. xi). Thus, political analysis in this type of inquiry can dually focus on structure and agency:

> The presumed opposition between "social determinism" and "the study of practices," recently advanced by some investigators who study science is, I propose, artificial. The choice is not (or at least should not be) between culturally sensitive thick descriptions of devices and practices which are conducted in an infinitely flexible world and schematic explanations based on grossly predetermined "group interests" and categories. (Löwy, 2000, p. 71)

In this study then, my explorations of the politics of knowledge need not be limited to micro or macro perspectives. Along these lines, there is an inherent multiscaled, multisite, multilevel character to most of the phenomena of interest to these and other STS scholars (Fortun, 2009). I posit that EBPs demonstrate the same character, and thus suggest similar methodological approaches. This type of multiscaled, "unconventional field" in anthropology is also discussed in Shore and Wright's (1997) *Anthropology of Policy: Critical Perspectives on Governance and Power*. According to Fortun, "A key goal is to use empirical work at the local

level to reshape 'dominant macro frameworks for the understanding of historic political-economy, such as capitalism, so that they can represent the actual diversity and complexity of local situations for which they try to account in general terms'" (Fortun, 2009, p. 75 n. 3, citing Marcus and Fischer [1986/1999, p. 88] from *Anthropology as Cultural Critique*). My methods are guided in part by Fortun's delineation of multiple scales of observation and analysis: *macro* (where markets, laws, and other translocal institutions work), *meso* (social organization and interaction), *micro* (i.e., the level of practice, e.g., participants' writing), *nano* (subject formation), *technological* (prosthetics of knowing, modes of transport and production), and *bio-material* (the "natural" and biological). On top of this there is a seventh stratum, *meta-data*, which is where "the dominant discourse" is produced and resides (2009, pp. 76-81). Working across these seven levels, the researcher "follows" key ideas and questions. Marcus's (1995) ethnographic notion of following is based on the "tracing within different settings of a complex cultural phenomenon given an initial, baseline conceptual identity that turns out to be contingent and malleable as one traces it" (p. 106). The researcher can follow people, things, metaphors, plots, stories, allegories, biographies, conflicts, and more. In this study, one of my methodological goals was to follow EBP stories back along their historical trajectories—historicizing the "research-practice gap"—and out into their wider institutional contexts of the BCTR, Cornell Cooperative Extension, EBP development, and beyond.

In a fashion related to Fortun's multisite, multiscaled work, Tsing's (2005) ethnography of global connection, gaps, and friction is also helpful. The notion of friction evokes Foucault's mention of "connections, encounters, supports, blockages, plays of forces, strategies, and so on." For Tsing, "powerful projects of categorization…produce persistently uninteresting, invisible, and sometimes illegitimate zones" she calls gaps (p. 172). A gap is a "zone of erasure and

incomprehensibility" (Tsing, 2005, p. 195). Gaps "develop in the seams of universal projects; they are found where universals have not been successful in setting all the terms" (ibid., p. 202). Elaborating, Tsing writes:

> Gaps are only experienced from the perspective of a particular, historically instituted line of demarcation in relation to which certain ways of being seem invalid or illegible. …To the extent that categories are drawn with power, the gaps they stimulate are worth taking seriously as critical spaces and sites for emergent voices and dreams. (2005, pp. 195-196)

This characterization of gaps is similar to the central theses presented by James C. Scott in his books *Weapons of the Weak: Everyday Forms of Peasant Resistance* (1985) and *Domination and the Arts of Resistance: The Hidden Transcript of Subordinate Groups* (1990), which analyze the "hidden transcripts," forms of everyday resistance, and alternative ways of living that spring up in the interstices of dominant structures. In my study, Tsing's and Scott's perspectives are pertinent specifically in relation to "the research-practice gap" and more generally in relation to spaces and practices where resistance and response to dominant, hegemonic formulations of evidence are evident.

Many of the methodological considerations presented above are reiterated in a book that has particular salience for my study because of its focal content as well as its methodology. *The Gold Standard* (Timmermans & Berg, 2003), which I mention briefly in chapter one, represents a study of standardization in medicine, including (and especially) as mediated through the evidence-based medicine movement (the parent movement of the evidence-based non-formal education movement). They position their project much in the same way that I position mine, as filling the space left by rhetorical "pro" and "con" debates about the benefit (or lack thereof) of an approach (evidence-based education in my case, strict medical standards in theirs):

> Instead of debating the advantages and disadvantages of standardization and getting stuck on a rhetorical level of analysis, we propose a study of the politics of standardization in practice. Drawing from the interactionist sociology of work, science studies, and ethnomethodology, we are interested in how evidence-based medicine changes the

> practice of medicine on both a micro and a macro level. Opponents and supporters agree that standards provide order but disagree on the merits and need of such ordering. We ask instead: what is being ordered, who does the ordering, what is the difference, and how does it change medical care? (p. 21)

By replacing "standardization" with "evidence-based education work," the above quotation fits well into my methodology. Timmermans and Berg examine how the world of medicine is "remade and molded" through standardization (p. 22); I examine how the world of non-formal education is remade and molded through intermediary EBP work and related efforts to make education more evidence-based. The work of Timmermans and Berg is based on three tenets which have methodological and theoretical implications that are equally important in my study: (1) *Situated knowledges*. They "follow standardization from the viewpoint of particular actors, recognizing that different agents would have experienced the same event differently. Every interaction is viewed as an intersection of multiple trajectories rendered meaningful from varying perspectives" (p. 22). (2) *Blurred agency*. From actor-network theory, they view standards as exerting agency. Standards act. An EBP acts. It is important to ask: What do they achieve? How relevant is their role? (3) *Emergent politics*:

> Standards are political entities because they reorder practices and change the position of different actors. They do not do so in and of themselves, but only as part of a network in which their own properties emerge with those of the human and nonhuman actors they affect. One important aspect of these politics is power. How power differences are transformed (or strengthened) through standards is one of our key points of interest. (p. 22)

So what specific methods do these methodological discussions imply? Most of the presentations of the studies discussed above—as empirical projects focused on complex, specific cases—do comment on the methods used, although in many cases, since method choice was not the primary purpose for the publication of the study, I had to glean information about methods from footnotes and endnotes. Most studies I identified relied on in-depth interviews, sustained participant observation, and document analysis or archival textual analysis (e.g., Shankar, 2009).

Interviews were usually analyzed using rounds of open, selective, axial coding, often with reference to the grounded theory of Strauss, Glaser, or both. In other cases, researchers were less specific, saying only that they used ethnomethodology. Some studies interwove survey data of larger samples, followed by targeted interviews.

Finally, before moving on to discuss the details of the methods I employed, for a playful and pertinent discussion of method selection in this genre of inquiry, I return to Mol (Mol & Mesman, 1996) who recounts what happened when a graduate student asks her advice on the topic:

> [I] was reluctant. [I] had never believed in "method" as a warrant for whatever it may be taken to be a warrant for. Worse: [I] had loathed the obligatory "methods-section" of [my] own PhD thesis, which risked talking about what [I] took to be interesting findings as if they were preliminary thoughts. In the few years since [I] had finished [my] thesis [I] had tried hard to forget about method. Discussing it somehow always seemed mainly restrictive. [I] would gladly have underscored Steve Woolgar's words (if they'd been written at the time): "Those attracted by the intellectual challenge will note with regret that their potential allies' obsession with method bespeaks a poverty of imagination and excitement." (p. 422)

While I have not assigned myself one overarching methodological label or another, I believe that exploring some of the IE and STS methodologies presented above prepared me well to make justified decisions about the options which emerged throughout the time I was conducting this study. Guided by these methodological traditions, I elected to use in-depth interviews, observation (including some participant observation), and document analysis.

Sample

As stated above, this study focuses on three programs, two of which take place in the United States and one of which takes place predominantly in Kenya. In the U.S., the two programs are institutionally located within the Bronfenbrenner Center for Translational Research (BCTR) at Cornell University in New York State: the Assets Coming Together for Youth Center of Excellence (ACT for Youth) and 4-H Youth Development Program of Cornell University

Cooperative Extension (4-H). The third program, an HIV prevention education program in Kenya, is a partnership of a U.S. university and a Kenyan faith-based organization, funded by the U.S. government and administered by the Centers for Disease Control and Prevention (CDC). As I mention in chapter one, my approach to sampling (at the level of organizations, programs, and people) was purposive, directed at cases in which this study's phenomena of interest were particularly salient. My fieldwork was rendered much more feasible because the two local programs offered sites in which EBPs and evidence-based practice work in contexts of non-formal education (and the politics of evidence encompassed therein) were prominently on display. I often reflected on this fact as I descended the gravel path behind Mann Library, on the five-minute walk to my primary field site, the BCTR. This project's third focal program, the Kenyan case, came to my attention serendipitously, through networking at a qualitative research conference. Despite the role of convenience and chance in my selection of sample cases, these three programs are exceptionally well-suited sites to pursue the lines of inquiry of this study.

Data Collection

Interviews. In institutional ethnography, interviews are frequently "oriented to sequences of interconnected activities; … each interview provides an opportunity for the researcher to learn about a particular piece of the extended relational chain, to check the developing picture of the coordinative process, and to become aware of additional questions that need attention" (DeVault & McCoy, 2006, p. 23). The interviews are organized around the idea of work, defined broadly: "The idea of work provides a conceptual frame and guides interview talk; the point is not to insist on the categorical status of any activity, but to hold in place a conception of the social as residing in the coordination of people's actual activities" (ibid., p. 25). Interviews can also be focused on "processing interchanges," where work processes intersect. Such interchanges

involved the chain of events, of interactions, and of document creation, alteration, and use in the processing (for example, of domestic violence cases through which a woman was differentially constituted as victim, patient, and so on). This is somewhat like studying the ontological politics of a bioassay at the Salk Laboratory or of an anemic patient, in that it involves a focus on the practices and technologies of inscription.

Narrative inquiry (Chase, 1995; Maynes, Pierce, & Laslett, 2008; Seidman, 2006) is a related research orientation based on interviewing that involves the construction, interpretation, and analysis of storied accounts of life experiences. It aims to contribute to the reflexive analysis and discussion of values, interests, and power. It can elucidate the "connections among individual agency, historically and socially embedded processes of self-construction, and the culturally specific narrative forms in which individuals construct their life stories and subjectivities" (Maynes, Pierce, & Laslett, 2008, p. 2). In narrative inquiry, the interviewer elicits stories, focusing on events, characters, plot, and actions rather than on abstract ideas and pat descriptions of the interviewee's work. My approach to constructing the interview protocol, conducting the interviews, and analyzing the interview data were all partially informed by narrative inquiry.

After identifying the three focal programs, I worked closely with one administrator involved in each to gain access (formally and informally) to the program. By searching the programs' websites and doing other background research, I identified a list of 40 potential interviewees, representing each of the three programs relatively evenly. My key contacts within each program helped refine the list, eventually honing it and reducing it to 30 individuals. As the study progressed, some people were unable to be interviewed or did not respond to my invitation

to participate, and were removed from the list, while other new potential interviewees were identified through snowball sampling and added to the list.

In total, I conducted 29 interviews including 30 people in all (one interview was with two interviewees simultaneously). I focused my sampling, at the individual level, on the three focal programs and their related contexts. The sampling of individuals from within the selected institutional cases was purposive, to let me gather data from people with different roles located at various levels of the hierarchy within a given organizational context. Additionally, I interviewed other individuals who were not directly involved in the day-to-day operations of the programs, yet whose experiences and perceptions were salient because they were either involved with the organizations housing two of the three programs (i.e., Cornell Cooperative Extension [CCE] or the BCTR), or had some other pertinent bearing on this study's phenomena of interest. In total, the distribution of individuals interviewed was as follows: eight from ACT for Youth; eight from 4-H; four from the Kenyan project; four from CCE; three from the BCTR; and three others. People had different roles and responsibilities in relation to the three focal programs, but all twenty interviewees involved directly with the three focal programs, plus all three interviewees from the BCTR, were explicitly involved in either (or both) intermediary support for EBP implementation or efforts to promote evidence-based practices.

Guided by my research questions, my theoretical framework, and the approaches to interviewing summarized in the methodology section above, I created an interview protocol (Appendix A). Questions were designed to elicit both people's stories of their work practices, and people's conceptualizations and perceptions of key constructs such as evidence, TR, the research-practice gap, and non-formal education. My hope was that through the coming together of people's stories of their work and people's more abstract conceptualization of their work, I

would catch glimpses of asymmetrical accounting practices, vocabularies of justification, and the processes by which seemingly self-evident facts obtain their facticity. This approach to interviewing also opens up space for tensions and gaps to emerge, highlighting moments and places where seemingly universal constructs are actually enacted in a multitude of disparate and even contradictory ways. I updated the protocol based on revisions suggested by my committee. The interview protocol was developed primarily for use with individuals closely involved with the focal programs; since some interviewees were related to the programs yet not directly involved in their implementation, I adjusted some questions on the protocol as needed, to reflect the situational context of each individual.

Participant recruitment occurred following Institutional Review Board (IRB) approval (see Appendix B). Sometimes mediated by my key contact people within the programs, and sometimes directly, I contacted potential participants by email (see Appendix C) and followed up by sending a consent form once I scheduled an interview (see Appendix D).

The 29 interviews lasted on average roughly one hour (with some lasting 45 minutes and others 1 ½ hours). I conducted the interviews either in person or by telephone (including one interview using Skype). After receiving permission from each interviewee, I digitally recorded each interview using a handheld digital recording device. I subsequently transcribed the interviews. Given the large quantity of textual interview data this approach produced, I reflected on whether or not recording and transcribing all of the interviews in their entirety was necessary. One option between non-recording (relying on note-taking during the interview), and recording with full transcription and coding, is recording followed by partial transcription. In this approach, the researcher does not transcribe the interview word for word, but rather conducts the first round of coding by only transcribing what seems most salient for the purposes of the research project.

Despite the intensity of labor it required, I transcribed most of the interviews as completely as I could (I transcribed 23 interviews fully and 6 partially, due to time constraints). My desire to pursue complete transcription was related to the fact that, in the methodological assemblage I applied, *how* someone discursively responds to a question is as important as *what* she or he says, so it is important to represent in the data as much of the interviewee's narrative and discursive formations as possible. I also took notes during the interviews to record any immediate impressions (to facilitate subsequent analysis), and to keep track of questions to which I wanted to return during the interview.

Observation. As a component of this partly internalist study, the interview method described above gives me data on how participants make sense of their world and their work in relation to the topic of interest. This offers me some types of insights; it has historically been favored in such approaches as phenomenology. Yet like that method, it can be critiqued for privileging the view of the participant over views informed by the researcher's "special understanding" of societal forces and structures, of ruling relation in which the participant is caught, unbeknownst to her or him. Observation helps avoid over-reliance on participants' accounts of the phenomena of interest. Observation grants me data and insights that I would have lacked if relying solely on interviews.

Again working with my key contacts within the focal programs and organizations, I identified a number of formal settings which would be amenable to observation, such as staff meetings, public lectures, and the like. As much as possible, I attempted to build relationships with a number of people involved in the focal programs and organizations to help facilitate my acceptance as an occasional or even every-day observer. Here, both STS and IE perspectives on observation are helpful in that they help orient the observer's gaze towards work practices. Yet

despite that guidance, the nature of evidence-based education work is such that much of it occurs quietly, in individuals' offices, as they sit in front of their computers working on documents, answering emails, and the like—everyday office practices. This posed a challenge to observation. When I asked them what they thought I should observe, most study participants tended to respond that there was nothing to see.

Analytically, this raises interesting questions about the nature of the work. Is it invisible? Is it distinct from other social scientific research, outreach, and extension work? Given this challenge, in so much as was feasible given time constraints, I attempted to "just be around" from time to time. Some days I would stop by the BCTR office and have informal conversations. Other days I would simply walk through the building on my way to my office. And I constantly stayed aware of other related events going on around campus or around the community that were salient to this study. While this vein of observation is rather unsystematic, I routinely took notes and memos after participating in or observing these various events. Regarding the Kenyan project, my observation was even more limited because I only had funding to conduct one week of field work in Kenya. As such, I targeted this week carefully; I was able to be in Nairobi, Kenya to observe a series of meeting during which EBP issues were one of the main agenda items and thus were explicitly (and at times hotly) discussed.

Counting formal instances of observation (i.e., discrete events such as meetings, public lectures, etc.), I observed over 100 hours of activities. Including a count of informal, interstitial observations would increase that number of hours significantly. Despite the sometimes unsystematic nature of my observation, I did create and use an observation protocol to guide the collection of observational data. The protocol outlined the following pieces of guidance: take observational notes in a notebook uniquely for this purpose; record the date and the setting (e.g.,

staff meeting, brown-bag lunch seminar, workshop, informal work contexts, hallway discussions, etc.); on left side of the page take basic observational notes, including any pertinent quotes (as closely recorded as possible); on the right side, make initial summaries and rough analyses of what is observed, to facilitate later analysis of the observational data; look and listen for specific ways in which knowledge, information, and ideas move and change in the actual processes of "doing translation" and "supporting EBP implementation;" look and listen for evidence of theories-in-use pertaining to evidence, translation, non-formal education, etc.; look and listen for evidence of tensions between varying accounts, procedures, and actions (tensions within and between particular individuals); review the Methodological Notes section of my research proposal monthly to foster the collection of observational data that would add value to the interview and discourse data; and, prepare time immediately following observation session to memo about initial impressions.

Document analysis. In addition to interviews and observation, IE and STS also rely on the analysis of texts, which can be seen essentially as "actants"—"a term science studies scholars have borrowed from semiotics to cover the agency of both humans and nonhumans" (Langwick, 2011, p. 21)—in that they are so essential to the social organization of ruling relations. Language and other aspects of discourse are extremely important given the focus of this study (Wilson, 2009). As Bourdieu has argued, "the production and reproduction of relations of power and inequality are legitimized through ideologies of language and accomplished through local social and discursive practices in specific historical locations and in a number of institutional sites," such as education (as cited in Martin-Jones & Heller, 1996, p. 5). In addition to Smith's own discussion of how to incorporate text into institutional ethnography (2005, 2006), this study draws from other, related approaches to discourse analysis. Foucault's methodological approach

to discourse (1980) is already embedded in this study via his theoretical work on power-knowledge. An additional approach, critical discourse analysis (CDA), starts "from the perception of discourse (language but also other forms of semiosis, such as visual images) as an element of social practices, which constitutes other elements as well as being shaped by them" (Fairclough, 1999, p. vii). It focuses on "showing how social inequalities are reflected and created in language, and ... finding ways through [the] work to change the conditions of inequality that [the] work uncovers" (Pennycook, 1994, p. 121). Taylor (2004) describes the "particular value [of CDA] in documenting multiple and competing discourses in policy texts, in highlighting marginalized and hybrid discourses, and in documenting discursive shifts in policy implementation processes" (p. 433). Foreshadowing van Dijk's (2008) emphasis on context in discourse analysis, and partially echoing Fortun and others' development of multiscaled ethnography, Wodak (2001) takes into account four levels of discourse:

> The immediate, language or text internal co-text; the intertextual and interdiscursive relationship between utterances, texts, genres, and discourses; the extralinguistic social/sociological variables and institutional frames of a specific 'context of situation' (middle range theories); the broader sociopolitical and historical contexts, which the discursive practices are embedded in and related to ('grand' theories.) (p. 67)

I applied these textual interpretation approaches to print and electronic literature, videos, and other "texts" relative to all three focal programs. For example, textual data analyzed in this study include: a series of four memos about evidence-based practice and EBPs, translational social science, and collaborative education research, all sent electronically by a 4-H administrator to community-based educators around the state; press releases and newspaper articles about the inauguration of the BCTR; research briefs and outreach materials from the Kenyan project; program websites; funding proposals and requests for funding related to the programs; textual tools (e.g., surveys, implementation checklists, communication vehicles) used as part of program implementation, and more. Critical discourse analysis could have stood alone

as the sole method employed in this study. However, since document analysis is one among many methods in my method assemblage, I scaled back the depth of this approach out of necessity stemming from issues of feasibility. Yet this approach adds important layers of analysis; as discussed in the IE and STS literature, one must be attentive to the work that texts do in shaping social relations (especially in such domains as education and research, where knowledge production and use are so acutely textually mediated). My goal in including document analysis along with observation and interviewing was to help construct the most complete understanding of this study's phenomena of interest that I could.

To collect and manage textual data for this purpose, I tried to notice and look for texts related to the institutional contexts of interest to this study. I stored copies of those texts (whether written, visual, mixed media) in a dedicated folder on my computer. Periodically throughout the data collection and analysis phases of this study, I performed basic CDA on the accumulated texts, following the steps listed below. Because CDA is an approach to text which requires "getting out of the trees to see the forest," this analysis necessarily involved putting the texts in conversation with my experiences as an interviewer and observer of intermediary EBP and related work, as well as my theoretical and philosophical understandings developed through my readings of related literatures. The steps that guided my analysis of textual, discursive data are as follows: read/look at/listen through the whole text once or twice; read/look at/listen through the text for words or other signs which are repeated, are otherwise prominent, are contradictory to other aspects of the text, and identify assumptions, self-evidences, rhetorical devices, and other potent content; take notes on how these words or other signs fit within Fairclough's (1999) approach and Wodak's four levels of discourse; note how texts interact with other work processes and channels of knowledge and information flow (e.g., how people interact with texts

in process interchanges, how texts work to organize the social relations around EBPs and work involving evidence-based practices); keep track of discursive data and indicators, and notes about the process, directly on the text and in a notebook dedicated to collection and analysis of discursive data.

Analysis

Analysis of all three types of data (interview, observation, and document) occurred together. In preparation for that analysis, I conducted initial analysis of the interview data by reading through transcripts immediately following the transcription and highlighting sections and phrases of interest. These included sections in which the interviewee recounts particular work processes, tensions, gaps, or contradictions. I also looked for explicit statements about what intermediary EBP and translational research work looks like in practice, and how that work seems to constitute education. I was also attuned to notice articulations of espoused theories (which can be compared to apparent theories in use as indicated by statements made elsewhere, in observational data, and in document data). I performed similar initial rounds of rapid analysis on observation data (including on the right hand side of the notebook page as I took observational notes), and document data (whenever I found and catalogued a pertinent example of textual data.

After those initial rounds of rapid, less-structured coding, I then used the ATLAS.ti (ATLAS.ti 7.0) software program designed for computer-assisted qualitative data analysis to more systematically code the data line-by-line. I began this process by creating a set of a priori codes (and an accompanying coding dictionary) based on my research questions and my theoretical framework. Examples of codes applied during this round of coding include ‘research-practice gap,’ ‘evidence,’ ‘EBP work practices,’ ‘institutional change,’ ‘social

relations/mediations,' 'tensions/gaps/frictions,' etc. As I read the interview transcripts, observational notes (scanned and converted to PDF format), and textual data, I coded sections of texts or images using those codes. Usually, I coded compete sentences or small paragraphs, although occasionally I coded smaller or larger sections of text. As I applied the a priori codes, and also during subsequent rounds of coding, I also created and applied additional codes that I saw as emerging from the data, partly in the tradition of grounded theory (Charmaz, 2006). Codes that I created and used during these rounds of coding include 'meeting in the middle,' 'nature of the work,' 'affect,' 'problem solving,' and 'critique of extension,' etc. Regarding the question of "emergence" from the data, I do not subscribe to Glaser's emphasis on favoring emergence over forcing, since I see it as leading to naïve, dogmatic empiricism. As Kelle (2005) describes, by highlighting the "emergence" of theoretical concepts from the data, Glaser is drawn to exaggerated truth claims based on the discovery of "facts as they really are."

During coding, I also created memos in ATLAS.ti to add commentary, explain codes, capture my immediate reactions, signal connections between codes, and record early versions of my thoughts which would later feed into my analyses. When I completed coding, I exported a report including all coded segments for all codes, plus a report of all memos and their associated segments of text. These two exported reports aided my analysis and writing of chapters five and six, below.

The way in which I report data in this study is influenced by two factors. First, I report interview and observation data in ways that will best maintain the confidentiality of all study participants. I refer to people's organizations and give vague details about their position in the organization only as needed to make analytic sense. Other than that, I try to mask as much identifying information as possible. The second factor is related to my methodological guidance

from CDA and narrative inquiry. In both of those traditions, it is common to report large sections of text; for some analytic purposes, the unit of analysis is necessarily larger than the single phrase- or sentence-length quotations that are common in much qualitative data reporting. In this dissertation, I often report quotations of one or two paragraphs in length. When necessary, I report much longer sections of text. In those cases, on a case by case basis, I requested additional permission (beyond the basic consent form) from the individuals involved to represent the text in that potentially more identifiable way.

Validity Concerns

Most discussions of validity threats, methodological rigor, and criteria for quality in the implementation of methods "tend to work on the assumption that the world is properly to be understood as a set of fairly specific, determinate, and more or less identifiable processes" (Law, 2004, p. 5). Even qualitative social scientific methods informed by philosophical romanticism and post-structuralism, such as symbolic interactionism, still contain "method talk" which leans towards particular versions of rigor connoting "that it is important to obtain the best and technically robust possible account of reality, where reality is assumed … to be a pretty determinate set of discoverable entities and processes" (p. 9). Symbolic interaction, as built into the method of grounded theory for example, exemplifies "an approach to method largely romantic in inspiration which then cut its cloth to fit the much more definite and determinate picture of the world imagined by post-World War II sociology in the United States" (p. 165, n. 10). Law suggests that

> dominant Euro-American enactments produce and presuppose forms of manifest absence [the aspects of reality 'out there'] that are independent, and prior to an observer; definite in shape and form; and also singular (there is only one reality). … Euro-American method assemblage usually assumes constancy (there are general and invariant laws and processes, and nothing changes unless it is caused to change), passivity in the objects that

> it discovers (they stay the same until they are caused to change) and universality (what is absent is generally the same in all possible locations). (p. 145)

Law and Urry discuss the idea that scientific methods—in this case social scientific methods—are productive; that is, they "do not simply describe the world as it is, but they also enact it" (2004, p. 390). The social sciences—as practices—are relational and interactive and their methods are performative. This relates to Biesta's suggestion that a transactional epistemology is more apt than a representational one. Thus, "Reality is a relational effect. It is produced and stabilized in interaction that is simultaneously material and social." (ibid., p. 395). On this problem (or the version of it in physics) Heisenberg wrote, "What we observe is not nature itself, but nature exposed to our method of questioning" (quoted in Law & Urry, 2004, p. 395). The authors offer more or less developed examples of this phenomenon from statistics, public opinion research, Durkheim's analysis of suicide rates, the industry of studying globalization, aero-engineering, and Latour and Woolgar's (1979) study involving bioassays at the Salk Institute (Law, 2004; Law & Mol, 1995; Law & Urry, 2004). Although many (especially empiricist and positivist scientists) might accuse Law, Urry, and Mol of falling into relativism at this point, ontological politics emphasizes that the world is both real and produced: "the real is produced in thoroughly non-arbitrary ways, in dense and extended sets of relations. It is produced with considerable efforts, and it is much easier to produce some realities than others" (Law & Urry, 2004, p. 398). On these premises, "the political grammar of social investigation undergoes an interesting shift" as researchers may ask "about what might be made in the relations of investigation, what might be brought into being" (ibid.).

Whereas technical notions of rigor in method predicated on these Euro-American assumptions of realty are expedient, easily evaluated, and more universally transferrable, the reincarnation of method proposed by Law is often "slow and uncertain" (p. 10). Bringing in

Law's discussions of method is not meant as a way to evade establishing and submitting myself to clear-cut criteria for quality in my methods. Rather, I use his discussions to help me reflect more carefully on the epistemological and ontological assumptions of my entire methodological approach. Below, I consider some established, normative guidelines related to quality in qualitative methods, because they also can factor into my reflective process. Yet I do not want this to signal a misunderstanding or misrepresentation of how my methods relate to the realities I will describe and interpret through this study—that is, I do not believe that if I do axial coding perfectly, to the letter of the Straussian law, and if I ask no leading questions in my interviews, and if I triangulate well, and if I "lead a healthy research life," then the knowledge claims in my findings will be X degrees of precision closer to the realities "out-there" about which I am making claims. I also attempt to refrain from using the term "findings," preferring instead language that more transparently signals my role in co-creating the data, interpretations, and lessons I represent below.

Nevertheless, even given this ontological position, established approaches to defining and working towards quality in qualitative methods can still help me do a better job. Validity in qualitative research is often described as "credibility" or "trustworthiness." According to Maxwell (1996), there are two major categories of validity threats in qualitative research: bias (my own and that of my study participants) and reactivity (the effect of the research on the setting or individuals studied). To some extent, the first can be addressed through reflexivity, positionality, and integrity (as opposed to indifference), and through using a plurality of methods to triangulate and/or let new structures of meaning emerge. The second (which is a threat especially in interviews, more so than in observation) can be addressed through understanding it

and using it productively. I posit that approaching inquiry with ontological politics in mind is perhaps the best (and a fairly radical) way to productively work with reactivity.

Generally, to increase the validity of conclusions and the existence of potential threats to those conclusions, I have endeavored to clearly show evidence that supports my claims and tried to find evidence that challenges my conclusions or that makes potential threats implausible (Popper, 1959). I carefully documented all of my processes involving data collection, management, analysis, and representation. I worked to assure what can be called "internal generalizability"—that is, that none of my descriptions, interpretations, or resultant theoretical positions contradict others within my study. Maxwell (1996, pp. 92-95) offers specific options for addressing threats to validity: Scriven's Modus Operandi (MO) approach, searching for discrepant evidence and negative cases, triangulation, feedback (including member checks, both technical and reflexive), "rich" (highly detailed) data, and comparison. Mertens (2005, p. 259-260) offers a similar list: persistent observation, peer debriefing, progressive subjectivity, member checks, triangulation, transferability, dependability, authenticity and fairness, and confirmability. In this study, I used some of these approaches—specifically: attempting to gather rich data, gathering member and peer feedback, searching for alternative plausible explanations, and being as persistent in my observation as was feasible.

One particular validity threat related to my analysis plan has to do with how I approach differences in what people say they do and what they (seem to actually) do. On this point, contrasting Latour's approach to that of classical sociology, Austrin and Farnsworth write:

> Classical sociology claims to know more than the actors it researches: it judges and "sees right through them to the social structure or the destiny of which they are the patients" ([Latour] 1996, p. 199). This sociology presumes to comment on what others say because it has metalanguage whereas the actors only have language. For classical sociology, actors become only informants and sociology exists above the fray at the same time as it also offers lessons, denounces and rectifies. As Latour puts it in his strongest attack, "for

> classical sociology the world is an asylum of fools and traitors, of pretenders and guilty consciences, and half-educated types. In this asylum the sociologist is the director, the only one who has the right to go outside" (1996, p. 200). By contrast his relativist sociology has no fixed reference frames and consequently no metalanguage. It does not know, or presume to know, what society is made of; instead, it seeks out informants who may. (2005, p. 161)

I see my analysis of interview and observation data as between these two extremes; I both listened to interviewees and respected the reality of what they said, while simultaneously using my metalanguage to listen for evidence of ruling relations, regimes of truth, dominant discourse, and makings and re-moldings "between the lines." In conclusion, my ultimate evaluation of the quality of the data collection, analysis, and interpretations in this study depend on presenting a comprehensive and nuanced story about what is entailed in efforts to make non-formal education more evidence-based.

CHAPTER FOUR

PRESENTATION OF CASES

In this chapter, I present the study's three focal cases in more detail, emphasizing the institutional changes the programs and organizations in each case were facing during the period of my data collection. I begin this chapter by presenting some information about the organizational context of the two U.S. cases: the BCTR. While I did not focus specifically on this organization as a unit of analysis, it provides the institutional and cultural backdrop in front of which the stories of ACT for Youth and 4-H unfold. Then, I present details about each of the three focal cases, drawing from program documents, interview data, and observation data. This initial presentation of data sets the stage for my consideration, in the following chapters, of how evidence-based program and evidence-based practice work is actually practiced, what perspectives and assumptions about what non-formal education *is* are manifested through that work, and what conflicts emerge through that work related to those perspectives and assumptions.

The Bronfenbrenner Center for Translational Research

The BCTR was created in the summer of 2011 by merging and adding to two previously closely related centers, the Family Life Development Center (FLDC) and the Bronfenbrenner Life Course Center (BLCC). It officially opened on August 30, 2011 as part of the College of Human Ecology. A new logo was created, a ribbon-cutting ceremony was held, and a well-produced promotional and informational inaugural video was created. The BCTR is located in Beebe Hall on Cornell University's Ithaca campus. According to the Center's Director:

> The BCTR will place the college in the vanguard of one of the most dynamic and exciting recent developments in the scientific community—translational research as a

> means to link research with outreach and education. The BCTR will operate as a "living laboratory" for the extension of research-based knowledge into practice and policy settings and for the incorporation of problems from those domains into researchers' agendas. (Eckenrode, 2011, p. 21)

The logo consists of four different colored arcs above the name of the center, spanning from one common point on the left hand side, near the "B," to four different points on the right side of the logo. In the inaugural video, the logo is animated, with the four arcs seemingly emanating from the point near the "B" in Bronfenbrenner, followed by a quick glow that traverses the four arcs back the other way, towards the point where they are joined. Whether static or animated (but especially when animated), the logo discursively suggests a preference for the "one-way" mode of dissemination of research, rather than the "two-way street," or bi-directional pathway notion that was mentioned by many interviewees and is consistently mentioned in written textual representations such as the one from the BCTR website, below. According to the BCTR's website:

> Translational research is the systematic movement of research findings into the development of innovative interventions, practices and policies that may ultimately improve health and well-being, and also the use of knowledge derived from interventions, practices, and policies to inform research. We envision a bi-directional pathway between scientific research and community practice, bridging these two realms in more effective ways.
>
> The Center will foster research to understand and discover solutions to human problems across multiple levels of analysis (individual, interpersonal, community, organizational, governmental), as well as to identify, evaluate, and disseminate evidence-based and cost-efficient practices and programs. The BCTR will also focus on research that informs policy issues and debates. Further, the Center will engage stakeholders at the local, state, and national levels in more effective partnerships with CHE [College of Human Ecology] researchers. In these efforts, the Center responds to the call in the University Strategic Plan to "strongly connect extension and outreach to on-campus research and educational strengths." (Bronfenbrenner Center for Translational Research, 2011b)

I interviewed some of the Center's senior administrators who were previously associated with either the FLDC or the BLCC and who were also involved in planning the new Center. There was a planning process of roughly a year leading up to the Center's creation. According to

the senior staff members I interviewed, a number of factors came into alignment in favor of creating this new center. For instance, one spoke of the need or desire to shake up and reconfigure the FLDC to bring it into the 21st century, "to help it articulate with more modern concepts of how people are talking about this work, build bridges, more closer connections to the college and its sort of overall mission." This person also talked about reaching out, especially to new faculty members, to get them connected to the BCTR's work. Usually, "outreach" refers to connecting in some way with a "community" outside of the university. The notion of building stronger connections to the college and of reaching out internally puts "outreach" in a new light. That same BCTR administrator continued this thread, saying:

> [The FLDC] was doing fine, it was a very successful center, and we could have left it go just the way it was and it would have been OK, but I think there was a feeling on my part and on some other peoples part that this was a good time given the environment within the college and who's Dean, Associate Deans and so forth that we were sort of on the right same page and this was a good time to initiate something new and different and kind of get ourselves out of the old way of thinking and kind of move forward a little bit.

Part of moving the Center's work forward meant a further embracing of the discourses of translational research. Some programs under the previous institutional structures were already explicitly translational prior to the creation of the BCTR (such as the Translational Research Institute for Pain in Later Life project), yet creating an entire center for translational research in the social and behavioral sciences was a novel move; according to the BCTR's Director, the Center is apparently the first of its kind in the U.S. to have the "translational" moniker, making it an apt site for this study. In the process of creating the BCTR, the decision to focus, practically and rhetorically, on the construct of translational research was related in large part to that construct's currency on the national stage, as evinced by the following extended interview quote from a member of the BCTR administrative team. Referring to the era of accountability, the ascendency of the "evidence-based" movements, and the advent of new academic fields such as

prevention research and implementation science, this interviewee also mentions the large NIH investment in translational research that I cite in chapter one:

> And when you go out and mention something like translational research, people don't really know what that means; you have to translate that phrase for them. Once you say: It's a simple concept; it's moving research to practice or policy, how does research get utilized to inform practice and policy, how does practice inform research, you know that bi-direction. So once you phrase it in those terms, people say, "Oh yeah, that's this translational research." I mean we use that word because that is what is the *au courant* kind of word in NIH and the federal circles now. It's what's being built in the federal arena so we wanted to be in step with how people talk about it in those levels, and to kind of signal that it's something a little different than traditional extension work out of the university. Not entirely different, but it's different in some respects.

One emerging theme throughout this study was the relationship between the BCTR and CCE as institutions and as ideas. That is, I became increasingly intrigued by the negotiation of identities between these two ways of constituting non-formal education. I followed up on the interviewee's previous statement by asking how translational research is different than Extension, understood traditionally. He replied:

> Well I think some of the goals are the same, I mean, it's always been … I mean we're not part of CCE formally, but we have a stronger mandate to connect with them, we are connecting more strongly with them. Like … we now house the 4-H program for the state, so we have now taken over a program, a major program that historically lived within Extension administration. So on one level, it's not that different than what Cornell's been doing since the beginning in terms of utilizing research for practice and policy and, whether its developing new seeds for farmers or whatever in the laboratory and then taking them out to the field, that's the kind of classic example. In the social sciences it's a little more complicated, but I think what's changed is the, a number of things.
>
> One is the larger context in terms of governmental context has changed so that we're now in more of an era of accountability. And people want to at least give lip service to the idea that we only want to fund programs that we know work, where there's some evidence that they work, and so forth. So there's this new era of evidence-based programs, evidence-based policy, evidence-based medicine; every field has its … evidence-based education, whatever. So that's changed, that landscape's changed some in terms of the larger context in which we work and in which programs operate. So you can't get away any longer running your local little teen pregnancy program and its something you've cooked up locally and it sounded good and somebody thought it up and everybody seems to like it but you don't have any evidence that it really works, you're not going to get state funding for those things anymore, let alone federal funding. We're

> in an era where more and more entities that support local programs or develop policies want to see evidence that these things work.
>
> So you need academic institutions like this that help provide that evidence or at least interpret the evidence for those entities ... and say well what does work, what does the evidence say worked. And that's changed and I think that's different than some of the old Extension, some of the older Extension activities. The science of prevention, the science of implementation research and so forth has also changed. So I think we're in an era where there have been developments in the technology, if you will. … And certain sub-fields are growing; now there's the sub-field of implementation science, which didn't exist 10, 15, 20 years ago. With new meetings and journals and you know, let alone prevention research and things of that sort. So that, the science of this, these things have developed over time, so I think that's different than it was 25 or 30 years ago, in terms of again, how we do this and how we get inside that process and study it and understand how you develop programs, evaluate them, disseminate, implement, scale them up, and so forth. Those fields are rapidly developing and there's more resources, in part it was driven by the biomedical side in terms of the Clinical and Translational Research Centers with NIH putting 500 million dollars a year into 60 of those centers around the country so that's driving the agenda a little bit in that direction.

Given my exploration of the connections between non-formal education (represented here by Extension), EBPs, and TR (as one way in which 4-H is engaging in efforts to become more evidence-based), the comments represented in this extended quotation above—in addition to helping contextualize the creation of the BCTR—are particularly salient. For instance, the social relations that led, in part, to the creation of the BCTR are notably multi-scaled, involving trends in the circulation of ideas and money at a national level, the birth and growth of new branches of science, and the much more local convergence of personalities and interests among the leadership of the FLDC, the BLCC, and the College of Human Ecology. Also, the framing of the changes and continuities, the similarities and differences regarding the connection between CCE and the BCTR seems rife with shifting power relations. I analyze some of these ideas in greater depth in the next chapter.

BCTR programs are mostly funded by grants and contracts, with funding originating predominantly from a variety of state and federal governmental agencies. Project directors—people who hold academic titles—constitute the Center's senior staff. It is important to note that

this linking of academic title to project direction was signaled as problematic by one interviewee: "So you have to have a PhD or you don't count kind of thing. So I mean I can't even initiate my own projects because I don't have a PhD. My projects have to be under somebody." Here, within the walls of the BCTR, we see knowledge hierarchies in action.

BCTR programs include: 4-H Youth Development; ACT for Youth; the Children, Youth, and Families at Risk Program; Computer-based Measures of Psychosocial Stress Exposure; the Cornell Early Childhood Program; the Cornell Research Program on Self-Injurious Behavior; Cornell Youth in Society; HIV Risk Reduction Research and Education Projects; the ISCOL Family Program; The Military Projects; the National Data Archive on Child Abuse and Neglect; Nonstandard Work Schedules and Child Development; Nurse Family Partnerships; The Parenting in Context Initiative; The Residential Child Care Project; The Role of Grandparents in the Lives of Adolescent Grandchildren; SCALE: Small Changes and Lasting Effects; and the Translational Research Institute for Pain in Later Life.

Focusing on the actual day-to-day work practices involved in "doing TR," we see that financial and institutional arrangements affect how TR work is done:

> We're a soft money operation primarily. So that drives a lot of peoples' work because we're grants and contracts. So part of what you do on a day to day basis it to manage the contracts and grants or you're looking for new ones. And that happens in regular academic departments too, but it has a little bit of a different flavor because … most of the people in the building are [dependant on grants and contracts for their salary].

The administrator who made that comment then recounted a recent episode in which a major program of the Center was awaiting the release of state funds. The program and Center staff were nearly certain that the award would come through, but it was apparently being delayed as it passed through the state bureaucracy; staff salaries and program expenses could then not be paid. In response, the administrator's role, in that particular context, was to call a state congressperson to see if the funds could be released more quickly. These work practices that might not be

common in most academic departments reflect, in part, the center's somewhat unique role as an intermediary between funders and service providers:

> We're doing translational work and community based work so were working with not just federal research agencies like NIH and NSF, we're working with the Department of Health or Education or Labor or something like that; Mental Health—Because we are working with programs in the communities that they fund. And we are an intermediary organization between, say, the state and these community-based organizations providing technical support or training to those organizations, so we rely on state money for that which means we have to work with those agencies and that's a little different context or ball game than a lot of, either than a department chair would get involved with … because we have a specific goal or mandate to work outside the walls of the university. And as a result it gets you into a lot of things that you wouldn't necessarily get into.

Expanding on the notion of the intermediary role, one BCTR interviewee explained the locus of the Center's influence this way:

> We work with the professionals who then work with the families. That's historically been our… and that's where we can have our influence is at that level. At the level of the organizations or front line workers who are then treating people, delivering programs, training other people to work with their constituency, that's who we historically work with.

In my presentation and analysis of this study's three focal programs, one emergent theme is that of organizational philosophy. I want to emphasize here that at the level of the BCTR, questions persist about what TR is and what the organizational philosophy of the center is. In my experience observing and talking with people involved with the BCTR, "translational research" is a construct that, eschewing concrete operationalization, acts essentially as a "sensitizing concept" (Patton, 2007a); people interpret and make of it what they will. Senior BCTR staff, for years, have discussed and debated what TR means, apparently coming to no consensus (Trochim, personal communication). Regarding organizational philosophy, one BCTR administrator described the tension this way (speaking of the FLDC, but in terms that could equally be applicable to the BCTR):

> We would have retreat after retreat after retreat and have real difficulty articulating the core of what we do and why we do what we do. And I would just tease people that we are

> just so, kind of, saturated with taking an ecological strength-based approach to whatever that we don't even see it. And that becomes very, very, very difficult to articulate what ...it's like "OK Tom, let's describe this air we're breathing." Right? It just is there. It just kind of surrounds and sustains us and so it's…And it takes a lot of time and effort which everybody in the Center is working really hard so that there's not a lot of time and there's very little extra effort to really take another step back and articulate theoretically at the Center level what we're doing. People do that at the project level, but I think at the center level, making that kind of articulation, theorizing could actually be really important.

I agree that theorizing the nature of the work is important and that leaving program theory and assumptions unexamined can be perilous; I hope this study will help BCTR-affiliated people reflect on their work in new ways. Again highlighting the connection between the BCTR and Cooperative Extension, and emphasizing the polyphony around what TR is, an interviewee reflecting on the Center's mission said:

> So part of the mission of the Center as articulated to some extent but not totally, totally clearly, is to be a major means for the College of Human Ecology to do its extension and outreach work. Both its big 'E' Extension connections, and then the little 'e,' just what you do to kind of communicate research. And then the other dimension of this is … looking at translational research or knowledge translation.

There has been very little study of TR in the social and behavioral sciences. As such, one of the Center's goals is to do just that. My research project thus can help the BCTR meet that goal; I am actually doing one variant of translational research, since I am doing research on translation. Within the BCTR, I focus on two programs, ACT for Youth and 4-H.

Case One: The ACT for Youth Center of Excellence

Overview: Supporting positive youth development. The Assets Coming Together for Youth Center of Excellence program (ACT for Youth) is one of the programs within the BCTR that involves youth-focused non-formal education. It originated in 2000 with federal funding from the Department of Health and Human Services that is administered at the state level by the New York State Department of Health. It is a partnership of the BCTR, CCE of New York City,

the New York State Center for School Safety, and the University of Rochester Medical Center Division of Adolescent Medicine. According to the BCTR website, ACT for Youth

> promotes positive youth outcomes and aims to reduce risky sexual behavior among youth by advancing the principles of positive youth development and supporting the implementation and evaluation of evidence-based programming.… ACT for Youth serves as an intermediary organization that provides technical assistance, training, and evaluation for Comprehensive Adolescent Pregnancy Prevention programs across New York State. In this capacity project staff advance research-based practices, while also learning directly from practitioners about the realities of implementation in the field. (Bronfenbrenner Center for Translational Research, 2011c)

ACT for Youth is one of the larger programs housed within the BCTR. It has roughly 12 people affiliated with it on Cornell's Ithaca campus[12], plus other staff representing partner organizations around the state. Other than the administrative duties addressed primarily by the director and the administrative assistant, the staff are essentially divided into four focal areas: training/technical assistance, evaluation, communications, and research. ACT for Youth continues to be funded by NYSDOH.

One interviewee described ACT for Youth as an "academic center of excellence that really links practitioners in the field with research best-practice innovation tools knowledge and expertise." Generally speaking, the central activities of ACT for Youth include the synthesis and translation of information "to help make it accessible to practitioners, policy-makers, and educators in the field who are working with young people or on behalf of young people." ACT for Youth also supports various community-based youth development and adolescent sexual health educators to help them better use information. ACT for Youth pursues this goal by offering training, technical assistance, evaluation, and knowledge transmission.

As mentioned in the quote from the BCTR website above and by many ACT for Youth staff and administrators I interviewed, the principles of positive youth development are important

[12] The personnel numbers fluctuate as interns come and go; also, staff changes occurred during the time of the study as new part time employees were hired and a part time employee shifted to full time work.

to ACT for Youth. The processes, principles, practices of positive youth development (PYD) were studied, developed, and coalesced into a field during the 1990s. Some guiding tenets of PYD include: that youth are resources to be developed, rather than problems to be managed; that a problem-free youth is not necessarily fully prepared—all youth benefit from increased access to developmental assets, whether or not they are "at-risk;" and that youth development occurs in community—positive youth development involves meaningful interactions between youth and their social environment (Damon & Gregory 2002; Delgado, 2002; Hamilton, Hamilton & Pittman, 2004; Jelicic, Bobek, Phelps, Lerner, & Lerner, 2007; Lerner & Benson 2003; Pittman, Irby, & Ferber, 2000; Roth & Brooks-Gunn, 2003). On this topic, one ACT for Youth interviewee said the founding of ACT for Youth

> was really coming on the heels of the real interest in state government of embracing a PYD approach that grew out of the late '90s where policymakers were really coming on board with PYD as a way of promoting the health and well-being of adolescents and preventing at-risk behaviors, so it's a strength-based approach as opposed to a deficit approach to working with young people.

From the time of its founding in 2000 until roughly 2008, ACT for Youth "worked with community partnerships doing youth development work with community partnerships, broadly trying to change how communities perceived and dealt with teenagers." During those years, the program was "kind of trying to change environments, trying to change adult attitudes, trying to sort of saturate the community with opportunities and supports and services; and trying to really shift this approach to a PYD framework." According to a report on ACT for Youth's first five years,

> the initiative seeks fundamental changes in the ways communities connect with children and adolescents. ACT for Youth supports young people by transforming the contexts in which they live, fostering health and well-being through community-level collaboration and a profound shift in the way young people are viewed by adults. (ACT for Youth, 2007, p. 2)

One tangible way in which ACT for Youth puts PYD principles into practice is by foregrounding "youth voice" through focus groups with youth around New York State. ACT for Youth staff dialogue with youth to gather information from them (e.g., about where they get their information, what it is like to get services, what their recommendations are on improving services, what they think about birth control and family planning services, etc.). The Director of ACT for Youth, Jane Powers, clearly remembers when youth voice became a central aspect of her approach. She recounts an instance, in the early days of ACT for Youth, when she was working with an advisory board (consisting solely of adults) to try to design a survey to gather data from youth.

> And all of a sudden I looked around the table and a light bulb went off and I absolutely had an epiphany and we were missing the vital presence of young people who could really help us carve out the questions, when to ask, who to ask how to ask. And at that point, truly in my life a shift happened and I began a shift from viewing young people as subjects, respondents, and informants to viewing them as partners, assets, and resources. And it put me on this spin of youth participatory evaluation and I connected with other people across the country (this was in 2002) who were doing that. There was the Wingspread Conference in 2002 on this topic, so I kind of, I had my awakening right when this field was coming alive. And I just started doing a bunch of different projects in this way. That was a major shift for me. And I've done a lot on this since then.

As summarized on the ACT for Youth website, the Wingspread Conference to which Dr. Powers refers was a watershed moment in conceptualizing youth engagement in research and evaluation. Much of the language regarding the relations of knowledge, power, and agency contained within the principles presented below is reflected in my theoretical framework and research questions.

> In June 2002, a group gathered at the Wingspread Conference Center in Racine, Wisconsin for the Wingspread Symposium on Youth Participation in Community Research. The purpose of the symposium was to develop strategies that would further youth engagement in community research and evaluation, and advance this new field of practice and inquiry.
>
> One outcome of the symposium was the drafting of the Wingspread Declaration of Principles of Youth Participation in Community Research and Evaluation. In these principles, "youth participation in community evaluation research is conceived as a democratic process that seeks to equalize power between youth and adults, recognizes their respective roles and responsibilities, and places special emphasis on involving those

> youth that are traditionally underrepresented" [Citing Checkoway, Dobbie, & Richards-Schuster, 2003, unpaginated].
>
> While these principles were developed specifically in relation to research, they apply to many forms of youth engagement. (ACT for Youth, 2013b)

In another overlap with this dissertation's theoretical orientations, elsewhere in the Checkoway, Dobbie, and Richards-Schuster report on the conference that is cited above, the authors write:

> Symposium participants discussed youth participation in community evaluation research as part of the democratization of knowledge. At a time when expert, technical knowledge predominates over knowledge derived from everyday experience and active citizenship, new strategies are needed to allow traditionally underrepresented groups to develop their knowledge resources as part of the broader movement for democratization. This has potential to break the monopoly on knowledge development and enable young people to gain knowledge and skills for active participation in a democratic society. (2003, unpaginated)

In many of ACT for Youth's initiatives over the past 13 years, youth engagement and the democratization of knowledge have been more or less explicit foci of the work.

Current focus: Intermediary support of EBP implementation. One dominant theme running throughout the data I collected on ACT for Youth—and the primary reason I identified ACT for Youth as a salient focal program for this study—is the institutional change the program has experienced in recent years. Their work has shifted to focusing primarily on supporting the implementation of EBPs. For the purposes of this study, it is noteworthy not just what the details of those changes were and what different practices and relations they entailed, but also how people understand and speak about those changes. For example, the following extended quote depicts the shift towards EBPs that came with the move towards ACT for Youth's largest project over the last few years, the Comprehensive Adolescent Pregnancy Prevention project (CAPP):

> But then the Department of Health kind of shifted gears on us, our funder, and pulled back and, shifting priorities in their department and needs, budget, fiscal issues. They didn't have, mainly, patience for PYD and they felt like they had crises happening and needed us to really work more directly with, on issues like promoting adolescent sexual health, preventing pregnancy, preventing STDs and HIV. So they *de*funded these partnerships and had us starting to work with their providers. They called them providers, their grantees. People whom they fund to do pregnancy prevention work and to do STD

> and HIV prevention work. And so over the last three years we've now been working with these providers.
>
> And that's where the whole implementation of evidence-based programs comes in because now, they're required, these prevention programs used to be able to do whatever they wanted to and they got money from the Health Department and said they wanted to do a mentoring program, or they wanted to do theater, or they wanted to do these drive by workshops. And that is no longer allowed. They can only use their money to do these evidence-based programs. That is as of January 2011. That was the new funding stream that came out from the department, called CAPP, which is Comprehensive Adolescent Pregnancy Prevention. And CAPP represents this very new shift on their end, which is coming down from the federal government saying that we're no longer going to allow you to use federal dollars just to do whatever. You have to base your work on evidence. And that gets into the whole thing about what is evidence.

ACT for Youth's intermediary role in the CAPP initiative involves working with 58 agencies across New York State who have been funded by the New York State Department of Health (NYSDOH) to do pregnancy prevention work and promote adolescent sexual health (e.g., sexually-transmitted disease [STD] and HIV prevention education). The community-based education agencies, or "providers" as they are called in the language of the NYSDOH, represent a wide diversity of types of organizations, from neighborhood centers, to afterschool programs, to Planned Parenthood associations and beyond, working in all areas of the state, from the various boroughs of New York City, to upstate cities like Rochester and Syracuse, to small rural towns. Many interviewees discussed how the variation in types of organizations involved, the disparate levels of organizational capacity that exist, and the diversity of the populations of youth served all pose significant challenges to CAPP's success.

The providers "got to choose from a list of 28 different evidence-based programs." The 28 EBPs from which the providers could choose were included on the list because they met certain criteria established by Mathematica Policy Research and Child Trends, two independent research firms that partnered to conduct research and evaluation on adolescent sexual health interventions; these firms have been contracted by the U.S. Department of Health and Human Services (HHS) since 2009 to conduct a systematic review of evidence-based adolescent sexual

health programs. It is important to note that the NYSDOH funding that supports the work of the providers is "flow-through" money originating, at the federal level, from the HHS. All programs on the HHS list have been shown to have evidence of positive outcomes through experimental or quasi-experimental research designs. According to a report authored by those two firms, the review "identifies, assesses, and rates the rigor of program impact studies and describes the strength of evidence supporting different program models. Findings are used to identify program models meeting the criteria for the HHS List of Evidence-Based Teen Pregnancy Prevention Programs" (Mathematica Policy Research & Child Trends, 2010, p. 1). That report describes the objectives of the review as follows:

> 1. Identify, assess, and rate the rigor of studies examining program impacts on teen pregnancy, STIs, and associated sexual risk behaviors.
> 2. Describe the strength of evidence supporting different teen pregnancy prevention program models.
> 3. Identify program models meeting the criteria for the HHS List of Evidence-Based Teen Pregnancy Prevention Programs.
> 4. Strengthen the evidence base by identifying key gaps in the literature and setting standards for study quality and evidence of program effectiveness. (ibid.)

In the review, "The highest study quality rating is reserved for randomized controlled trials (RCTs) and similar studies that randomly assigned subjects to the study's research groups" (ibid.), whereas "[q]uasi-experimental designs with an external comparison group are eligible for at best a moderate rating" (ibid., p. 4). Looking at what types of evidence are valued least by the mechanisms at work in this report,

> Quasi-experimental designs without an external comparison group (for example, pre-post designs) are given a low study rating. These designs are not considered for either the high or moderate rating because they offer no credible means to assess what the sample's outcomes would have been absent the intervention—a necessary condition for obtaining an unbiased impact estimate. (ibid.)

The specific details of how the systematic review report was created provide a glimpse into the shaping of a regime of truth. We see the "mechanisms and instances which enable one to

distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true" (Foucault, 1980, p. 131):

> Studies that meet the review screening criteria are each assessed for quality of research design and implementation. The assessments are conducted by a team of researchers from Mathematica and Child Trends, all of whom receive a full-day training on the evidence review and assessment protocol. Each individual impact study is assessed by two team members; the first member conducts a detailed review of the study following a protocol developed by Mathematica and approved by HHS; the second member checks and verifies the review for accuracy and completeness. Following the assessment, the team members assign each impact study a quality rating of high, moderate, or low for the rigor and execution of its research design. The rating scheme was developed by Mathematica and approved by HHS prior to the first review of the evidence. In developing the scheme, Mathematica drew upon the evidence standards used by nine other evidence assessment projects or research and policy groups. (Mathematica Policy Research & Child Trends, 2010, pp. 3-4)

Reflecting on the limitations to the RCT design and the problematic methodological, epistemological, ontological, and praxeological assumptions laid out by Scriven, Biesta, and others (presented in chapter two), the preeminence and certainty that the HHS list of EBPs (via the Mathematica and Child Trend systematic review) ascribes to RCT is puzzling. I consider this Mathematica report, and the knowledge hierarchies it helps establish and support, in greater detail below in my analysis of conflicts and tensions involved in adaptation of EBPs.

First, however, I offer some additional perspectives from interviewees related to ACT for Youth regarding the institutional change involved in shifting towards CAPP and EBPs. One ACT for Youth interviewee described the change this way:

> ACT II [the second five-year NYSDOH funding cycle] started off much more similar to ACT I but then had a real shift, and I think a lot of that came from kind of political pressures within the Department of Health really having to change their approach. So that was the big shift. And CAPP was born out of that. So, much less PYD, much more sexual health.

This interviewee went on to talk about how "you can see flavors" of ACT in the CAPP Request for Applications (RFA) document, the call for proposals from community-based education

agencies ("providers") that was released by the NYSDOH on September 13, 2010. By "flavors" of the ACT for Youth approach, this individual is referring to the fact that providers funded through CAPP must have a community advisory council, pulling in diverse stakeholders to guide the implementation process. As stated in the CAPP RFA:

> Funded projects will be required to be an active participant on a community advisory council made up of volunteers who intend to improve the target community's living environment relevant to the prevention of adolescent pregnancy, STDs and HIV/AIDS rates by developing a community plan. (New York State Department of Health [NYSDOH], 2010, p. 9)

This interviewee also referred to "Core Strategy Three," one of four central components that comprise the "work scope" of CAPP grantees. Strategy Three pertains to more general PYD-type activities and outcomes, as opposed to the more explicit focus on adolescent sexual health contained in the other Core Strategies. All four Core Strategies—what amounts to the central focus of the CAPP initiative—are presented below:

> Core Strategy 1: Provide comprehensive, age appropriate, evidence-based, and medically accurate sexuality education to promote healthy sexual behaviors including abstinence, delay the onset of sexual activity and reduce the practice of risky sexual behaviors among youth. …
> Core Strategy 2: Ensure access to comprehensive reproductive healthcare and family planning services for teens to prevent pregnancies, STDs, and HIV/AIDS. …
> Core Strategy 3: Expand educational, social, recreational, vocational and economic opportunities for teens, including pregnant and parenting, high risk and disconnected youth, to provide alternatives to sexual activity and to develop skills that can support a successful transition into healthy young adulthood. …
> Core Strategy 4: Advance a comprehensive and sustainable local community effort to improve the community environment for adolescents, reduce initial and subsequent adolescent pregnancy, STD, and HIV/AIDS rates and reduce health disparities related to race, ethnicity, socioeconomic status and geography. (NYSDOH, 2010, pp. 13-16)

Despite the existence of four core areas of work in CAPP, Core Strategy One is consistently represented as the most important priority, so much so that in my own thinking, the CAPP project often became synonymous with implementation of EBPs. To a large extent, working with Core Component One has become ACT for Youth's main focus.

Case Two: The 4-H Youth Development Program of Cornell Cooperative Extension

Overview: One hundred years of youth development. Nationwide, 4-H is one of the oldest and largest youth development organizations. A brief history of 4-H is provided on the national 4-H website:

> During the late 1800's, researchers at public universities saw that adults in the farming community did not readily accept the new agricultural discoveries being developed on university campuses. However, they found that young people were open to new thinking and would "experiment" with new ideas and share their experiences and successes with adults. In this way, rural youth programs became an innovative way to introduce new agriculture technology to their communities.
>
> The seed of the 4-H idea of practical and "hands-on" learning came from the desire to make public school education more connected to country life. Early programs tied both public and private resources together for the purpose of helping rural youth. Building community clubs to help solve these agricultural challenges was a first step toward youth learning more about the industries in their community. …
>
> When Congress passed the Smith-Lever Act in 1914 and created the Cooperative Extension System at USDA, it included work of various boys' and girls' clubs involved with agriculture, home economics and related subjects, which effectively nationalized the 4-H organization. By 1924, these clubs became organized as 4-H clubs, and the clover emblem was adopted. (National 4-H Council, 2013)

Given my focus on the relations of research and practice, it is noteworthy that according to this common narrative, 4-H's origins were intimately connected to the research dissemination goals of Extension. Practically and discursively, 4-H has always been connected to research in one way or another. In a Cornell newspaper article on 4-H's move to the BCTR, a similar discourse appears:

> 4-H is rooted in science. The program originated at the land-grant universities at the turn of the 20th century to introduce such improved practices as hybrid seed corn, milk sanitation and safer home canning procedures. Researchers found young people were more open than adults to the new ideas and technologies and would share their successes with their parents and communities. These innovative programs for rural youth gave rise to the first 4-H clubs. Soon 4-H became a national youth development program run by the land-grant universities and the Cooperative Extension system. (Booker, 2011)

More recent discussions of 4-H's connection to research refer to linkages with the field of PYD. As a youth development organization that has embraced PYD, 4-H also has much in common

with ACT for Youth's earlier years. In fact, leading PYD scholar Richard Lerner and his colleagues focused a major longitudinal PYD study on the context of 4-H (Jelicic, Bobek, Phelps, Lerner, & Lerner, 2007).

In addition to the findings from the Lerner study, a handful of other frameworks (ideally) guide program planning and evaluation in 4-H. For instance, many 4-H educators base their work on "the Eight Essential Elements," which are: Positive Relationship(s) with Caring Adult(s); A Safe Environment; An Inclusive Environment; Engagement in Learning; Opportunity for Mastery; Opportunity to see Oneself as an Active Participant in the Future; Opportunity for Self-Determination; and Opportunity to Value and Practice Service for Others (Samuel & Rose, 2011). In similar fashion, the Circle of Courage (Brendtro, Brokenleg, & Van Bockern, 2005) which focuses on youths' need for belonging, mastery, independence, and generosity, and the Iowa 4-H Life Skills Wheel (Hendricks, 1998) are also important guides to many 4-H educators. Many 4-H interviewees mentioned these resources as part of the research-based foundation of 4-H; when I was a 4-H educator, these frameworks also informed my practice.

4-H exists in every state in the U.S. as well as in a handful of other countries around the world. The four Hs stand for Head, Heart, Hands, and Health. The most common type of 4-H experience is the club, in which a volunteer leader guides a group of young people who have coalesced, usually around a particular topic of interest (e.g., rabbits, dairy cows, rocketry, etc.). Although 4-H is often stereotyped as just being about kids learning how to raise animals, 4-H has actually become a highly diversified youth development organization, covering a wide array of topics and reaching urban, suburban, and rural youth. In addition to the club structure, 4-H has a number of other "delivery modes": fairs, workshops, camps, afterschool, school enrichment, conferences, service learning opportunities, volunteer training, and so on. Like most Cooperative

Extension funding structures, 4-H is funded through a mixture of sources, with different levels of the organizational hierarchy receiving different levels of funding from various sources. The national 4-H program is supported through the National Institute of Food and Agriculture (NIFA) agency, part of the U.S. Department of Agriculture (USDA). At the state level, funding comes from a blend of federal and state sources, while at the local county level, county funding and participant fees are also important sources of revenue.

I interviewed eight people directly involved with 4-H and four people involved in CCE who have a good working understanding of 4-H. Among these interviewees, people described 4-H youth development education in the following ways:

> I think it's pretty simple; I think what we do is pretty amazing, but it's pretty simple. You know, we're connecting people to the resources of this land grant university. Now, knowing that not everybody understands what a land grant university is … what I boiled it all down to is 4-H connects kids to Cornell, because people understand what Cornell is, even if they don't know where Cornell is. They understand that it's an Ivy League, that it's a respected university. People might think of it as pretty agricultural but we have a lot of high end agriculture in our roots, so that's not a bad thing. I think saying that we connect 4-H to Cornell pushes the bar a little bit that we're not just cows and cooking, we are, we have a higher education in our mantra and in our background.

> Trusted information. That's one of the things that Cooperative Extension's about. Enriching families, farms and communities. We're a conduit to Cornell and the LGU [land grant university] research and programs. … Practical knowledge. That's what we're about. Substantive non-formal learning experiences. So if you think about 4-H club programs or the kinds of educational programs that really work, that the research says work, it's not fly by night, it's not a quick and dirty workshop or an event. Although those things may build peripheral knowledge and peripheral education, they are not really, that's not the kind of stuff that's going to change lives. It's going to be more of those substantive kinds of things. So, substantive non-formal learning experiences. Collaborative learning environments. We're based on research, which is that conduit, but it's just another way of saying it. And high-quality and high-impact programs that meet needs.

Another interviewee described good 4-H education as programming that is culturally relevant and responsible and that meets the needs of youth and their families. The work involves getting to know the youth, developing a relationship with them, and creating an environment for them to

determine what their needs are and then serving as a guide to help them to meet their goals. In a similar vein, another interviewee summarized some of 4-H's benefits in this way:

> I feel like every kid should get the opportunity to be involved in an organization, whether it be 4-H or some positive organization where they can get opportunities to go and exposure to the greater world, exposure to other kids and differences, exposure to a positive safe adult and an environment and to feel that they can be good at something that they want to be involved in. Because every day we have to be involved in things that we don't necessarily want to be involved in. And school is a good fit for some kids and sometimes it's not a great fit and to have an avenue that feels like "Oh I feel really good here, really good at this" and maybe actually can point you in the direction of a career.

> I think we're based on … our theory of how we do what we do is based on research. I mean the Tufts study [Jelicic et al., 2007] is a perfect example, the Essential Elements, the Circle of Courage, it's based on something. It's based on best practices, research, whatever you … evidence, of what it takes to grow, if you will or generate, or whatever the word might be, a confident capable citizen. Basically we want to be able to provide these key pieces for kids to be able to succeed. … 4-H can be very project specific. But I think we tend to, it's more of a philosophy of how we work with kids and the environment we provide for kids and that might come with teaching a project skill to a very high level, it could be teaching a project skill that is never going to be great but the kid feels good about what they're doing, so for me it's more about providing this environment that is conducive to belonging, generosity, mastery, independence. Those are the things that I feel like we do best at. And those are all based on research. So we followed that beautifully for many years and we followed the experiential learning and building in the life skills piece. So that I think we do really well.

Current focus: Pruning, and connecting to research. In spite (or because) of 4-H's century-long connection to research, one of the most important trends facing 4-H (at CCE specifically, but also, it seems, in other states too) is the need to connect more strongly with research. Especially given the topic of this research project, and in light of 4-H's recent move into the BCTR, it is not surprising that many of my interviewees mentioned this trend. One of the central goals of the state 4-H leadership team, housed in Beebe Hall, is to better connect 4-H programming around the state with research. Hamilton, as quoted in Booker (2001), said:

> By bringing 4-H even closer to the university, our aim is to ensure that programming decisions are based on the best evidence of what young people need and what programs are most likely to meet those needs. Some of the evidence will be found in the research literature. Some will be generated by research conducted by Cornell faculty and staff

> working collaboratively with 4-H educators, volunteers, youth and other stakeholders. (unpaginated)

That same newspaper article also quotes Dr. Valerie Adams-Bass, New York 4-H Youth Development Program Leader:

> Our goal is to link the extensive array of county-level programs with the latest research on youth development. … In an era where such programs compete intensely for funding and for time—both on the part of kids who participate and the adult volunteers and staff who run them—we need to be able to show that these projects make a difference. With 4-H as a part of the Bronfenbrenner Center, we have a wonderful opportunity to provide the type of support our county educators need to do just that. (Booker, 2011, unpaginated)

I first came across the term "pruning" in this context in some of the document data I identified early in my data collection. Stephen Hamilton wrote a series of memos to be shared with 4-H staff across New York State around the time that the move to the BCTR was announced. Among these memos, he introduced the notion of TR, discussed practice-based research, and presented the need to thoughtfully consider future directions for 4-H programming across the state. The first memo, dated April 16, 2011, used the metaphor of pruning to suggest that, in an environment marked by shrinking resources, some cutting back and refocusing of 4-H programs would be necessary. Because they are so discursively rich and cover so much material of import to this study, I reproduce large sections of the text of these memos below. In a memo from May 6, 2011, Hamilton begins by mentioning TR's roots in medicine:

> The term has become quite prominent in medicine (Woolf, 2009). The National Institutes of Health have created a series of centers for translational research, including one at Weill Cornell Medical College. Interest in translation results from the long lag time between discoveries in laboratories and the introduction of new medical treatments, estimated to average 14 years[13] for the small percentage of lab discoveries that ever get used. The slogan used in medicine to capture the meaning of the term is, "from bench to bedside."
>
> Those of you who are familiar with evidence-based programs/practices (EBP) will notice the common origins in medicine of TR and EBP and some overlap between the two. The idea behind EBP is that our programs and practices should be grounded in

[13] Hamilton refers to 14 years here; many other people refer to 17 years, which is the number at which Balas and Boren (2000) arrive.

> research. TR is a broader construct. It refers to the entire process through which research informs practices. For some, TR is simply applied research, but we don't need a new term for that. TR incorporates "basic" research, applied research, and practice, conceiving of them as a system. Moreover, TR introduces the use of research to understand and guide the workings of the entire system.

Elsewhere in that memo, Hamilton enumerates three critical ways in which TR in medicine differs from its potential uses in 4-H, since "youth development is not medicine":

> 1. In the medical model, the driving force is a new discovery made in a laboratory. Extension educators typically start planning a program with issues or problems to be solved, not because they have learned of a new discovery. A program typically draws on a wide variety of sources, not just a single study. Moreover, the research base will be textbook research rather than journal research. That is, the information provided is far more likely to be grounded in a consensus view based on many different studies rather than a single new study, which is subject to challenge by subsequent research. Anyone who follows news accounts of the latest research on human nutrition understands why this is so.
>
> 2. Ideal medical treatments are powerful and straightforward: a person whose hip has been damaged by severe arthritis has hip replacement surgery followed by physical therapy and regains mobility. Youth development programs, in contrast, are multifaceted and rarely life-changing by themselves; their effects often result from interaction with other experiences (e.g., most of mentoring's positive impact results from improved relations between mentored youth and their parents).
>
> 3. Another critical difference standing between medicine and the field of youth development has been mentioned above. Medicine draws on centuries of research and on the products of a vast research enterprise. Evidence-based practice in medicine is backed up by a quantity and quality of research that simply has no counterpart in the social sciences. If we limited youth development programs to those whose evidence base matches medicine, we would be out of business.

In a follow-up, Hamilton wrote a related memo the following week (May 13) entitled "Practitioners as Researchers: Translational Research and 4-H #2":

> As noted in my previous message (May 6), conventional approaches to translational research (TR) emphasize the transmission of research knowledge to practitioners. Equally important, in my view, is the engagement of practitioners and other stakeholders, including youth, in the interpretation and generation of research. Researchers have a unique kind of knowledge, but they do not have all knowledge. By virtue of their experience and professionalism, practitioners may know things that researchers do not, especially about the youth they work with. Youth bring a distinctive perspective, as do volunteers and other stakeholders. Ideally, TR makes use of valid knowledge from all sources.
>
> Some conceptions of TR recognize this by including a feedback loop, illustrating the opportunities practitioners and other stakeholders have to respond to TR findings and

their implementation, and the openness of researchers to that feedback. An even more aggressive approach is to involve the people who are usually considered consumers of research in producing research. They can identify issues that conventional researchers have overlooked, understand and interpret research findings differently, and illuminate critical issues. Moreover, by conducting research they will become much savvier consumers of research.

"Local" research can answer pressing practice questions, guiding action as well as or better than conventional academic research. If planning is underway to mount a program for unmarried teenage mothers, the relevant research-based information includes not only findings about the motives and challenges of young women in general, but also about the size and nature of the potential local audience.

It is easy to lose sight of the fact that much research in the "hard" sciences also generates local rather than universal knowledge. Consider the work of a marine biologist working on the restoration of the sturgeon in the Hudson River. She draws on universal theories and principles of biology, but her goal is not primarily to generate new theories and principles but to build the population of one species in one river. Her research is no less scientific than that of a biologist seeking to understand the process of extinction; she using science for a different purpose.

Needs Assessment

As the example of developing a program for teenage mothers illustrates, one form of local research is needs assessment: collecting information about issues and audiences to inform program priorities and planning. Research for this purpose draws on multiple sources. One is the scientific literature. Researchers identify trends and problems using demographic data, large-scale surveys, surveillance data collected by organizations involved, and smaller-scale studies that help to refine our understanding of the issues and of the affected populations. But local data sources are also important at this stage.

Knowing that there is a problem nationally does not automatically justify a local response. It is also necessary to define the scope and significance of a problem in the community. The internet has vastly increased access to data, which can allow program planners to examine local data, compare it with data from other communities, and track changes over time.

New data may also be generated for use in program planning. Surveys are an obvious method. In many counties the United Way leads surveys periodically. But other methods and more targeted initiatives can also be useful. Jane Powers (ACT for Youth in the Family Life Development Center) and her colleagues conducted a creative study of homeless youth in Tompkins County (*Surviving on our Own*, 2004). The magnitude of the population and the origins of their homelessness were uncovered by means of interviews conducted by trained homeless youth who were able to identify their peers, convince them to be interviewed, and then speak frankly with them. This study is an excellent example of participatory action research (see below). Its findings substantiated a successful grant application to provide services to a population that was not previously recognized.

Evaluation

Evaluating programs is a familiar way in which practitioners use research and sometimes conduct research themselves. Ordinary evaluation research is useful primarily or exclusively in the context of the program where it was conducted. But, in principle, evaluation studies could be the equivalent of clinical trials in medicine. When many practitioners are carefully evaluating their programs and sharing their findings, the evidence base grows.

The failure of most evaluations to meet the standards of published scientific research cannot be attributed solely to limitations in evaluation researchers. Few evaluations are conducted with resources sufficient to mount the kind of study that yields publishable findings. Many funders make ambitious claims about the rigor of the evaluations they wish to have done on the programs they support but then give such meager funds to pay for them that the results are far from definitive. "Evaluation Partnerships," by the Cornell Office for Research on Evaluation, illustrates how the quality of locally-conducted evaluation studies can be improved.

Participatory Research

When the purpose of research is to generate local knowledge, the involvement of people who are not professional researchers is clearly both useful and feasible. There are many reasons why local research can often be done best by local people. One is that they are cost less than professionals, sometimes volunteering their time. A more important reason is that often the data will be more valid and more likely to be accepted as valid and used if potential users are involved in designing and conducting the research. Two traditions have grown out of this perception; their methods overlap but have different origins and orientations. Action research or participatory action research (Greenwood & Levin, 2007) has a radical pedigree. It is often associated with political action and community organizing and its proponents explicitly reject many of the assumptions of conventional researchers. Some call into question the very possibility of universal knowledge. In the worldview of many action researchers, all knowledge is local. Community-Based Participatory Research (CBPR) is the more "establishment" version, using many of the same methods but for utilitarian rather than philosophical or ideological reasons. The National Institutes of Health, the major source of funding for medical research, now also sponsors CBPR, defined as "…a collaborative process that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community with the aim of combining knowledge and action for social change to improve community health and eliminate health disparities" (Minkler, et al., 2001, p. 1210).

Participatory research is a bold assertion by practitioners and other non-specialists that they can play a more active role in translational research than absorbing and applying scientists' knowledge. It affirms the value of local knowledge. 4-H Educators should take this as a challenge to build their capacity to contribute to research as well as to be informed by research. The resources of the Bronfenbrenner Center for Translational Research will help build this capacity.

Elsewhere in these memos, Hamilton also discussed the varying definitions of "program" in different fields of action and how that variation can lead to confusion:

> "Program" is a word of 1000 uses. We talk about "the 4-H program," which is a large, multi-faceted enterprise, and about "the leader training program last Saturday afternoon," a single event. "Project" is more defined, referring to a specific sequence of activities, ordinarily having a title, a set of materials, a time period in which participants are engaged, culminating in a product of some sort. The two terms are sometimes used interchangeably. I will use "program" to mean both projects and sets of projects in the same domain (e.g., the plant science program).

He also explores the interesting distinction between evidence on *programs* and evidence on *practices*, again referring to the differences between medicine and education. In doing so, he mentions the names of some of the few existing EBPs in education, such as PROSPER and Gil Botvin's Life Skills Training program (Botvin, Griffin, & Nichols, 2006). He also highlights another important distinction to which I return in the next chapter: the fundamental differences between prevention programming and positive youth development.

> In medicine, the term, evidence-based practice, has a very specific meaning that goes beyond the presence of some kind of evidence for a particular practice. Formally, evidence-based practice is validated by an exacting process of searching the research literature for relevant studies and combining the data from those studies in a statistical process known as meta-analysis whereby they are treated as if they came from one very large study. A panel of experts guides this process and deliberates over the results before issuing practice guidelines. (For a good overview, see the CDC's Community Guide: http://www.thecommunityguide.org/). Exemplary collections of research-based youth development programs can be found at Chapin Hall, http://www.chapinhall.org/research which regularly synthesizes research and evaluations; Communities That Care (http://preventionplatform.samhsa.gov/) which promotes prevention strategies for problem behaviors; and PROSPER http://www.isbr.iastate.edu/PROSPER/ which promotes and tests the adoption of evidence-based youth development programs. These are useful sources but hardly comprehensive; prevention and treatment programs have generated far more research than positive youth development programs.
>
> The line between programs and practices is not fixed, but it is worth noting that as the idea of an evidence base made its way into youth development a shift occurred from practice to programs. This surely reflects the centrality of programs for youth development organizations and professionals. Evidence-based practices are more unitary, less complex than programs. Giving participants a "voice" in choosing and running programs is an evidence-based practice. Life Skills Training (developed by Weill Cornell Professor Gil Botvin) is an evidence-based program. A key challenge in implementing evidence-based programs is always that evidence demonstrating the effectiveness of the program as a whole provides no guidance about what parts of the program are most efficacious. Therefore it is impossible to know what the results will be of adaptation, which is far more common than strict adoption. That is why there is such stress on implementing evidence-based programs with fidelity.

The dearth of EBPs in non-formal education, along with critical questions about why there are so few and whether or not producing more EBPs for 4-H is feasible or desirable, are all topics that came up frequently in my interviews with 4-H stakeholders.

Concretely, these discussions of TR and 4-H would eventually be put into action through a pilot project in the Western District of the state. That project, which Hamilton would eventually call Research for the Continuous Improvement of 4-H, is presented in greater detail in chapter six, in the section exploring what EBP work and evidence-based practice work actually look like in practice.

Case Three: HIV/AIDS Prevention Education in Kenya

Overview: A partnership for HIV education. The partnership that comprises the Kenyan project started unofficially in December, 2004 and officially in February, 2006. The Kenyan faith-based organization, which is quite large, had been providing a variety of educational programs and services across Kenya for a long time. In the early 2000s, they developed a series of five modules, or lesson plans, for HIV/AIDS prevention education. They requested funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). The CDC, through their office in Kenya, is the arm of the U.S. government that is responsible for implementing PEPFAR in Kenya. Worldwide, multiple federal agencies oversee parts of PEPFAR. The agency overseeing the funds that support the Kenyan project I focus on in this study is the Global HIV/AIDS Program of the U.S. Health Resources and Services Administration (HRSA), part of the U.S. Department of Health and Human Services (HHS) (the same agency funding ACT for Youth and the providers whose work they support). CDC Kenya oversees PEPFAR funding in Kenya because HRSA does not have a presence in Kenya and elsewhere in East Africa. The implementation of the partnership and project is also supported

and overseen by the American International Health Alliance (AIHI)[14] Twinning Center, whose goal is to create peer-to-peer relationships between organizations working to improve services for people living with or affected by HIV/AIDS. The Twinning Center is also PEPFAR-supported.

When the Kenyan faith-based organization contacted CDC Kenya to receive funding, CDC then approached a research group at a U.S. university to see if they would partner with the Kenyan organization—such a partnership was required in order for the Kenyan group to receive PEPFAR funding. The U.S. research group, which was looking for potential partners for international HIV/AIDS prevention education work, involves a small group of faculty, staff, and occasionally graduate students hailing from the Department of Psychology, the Master of Public Health program, the College of Communication, and elsewhere from within the university. During the time of my connection to the project, there were three key personnel from the U.S. university involved in the initiative.

The partnership is focused on promoting youth abstinence and behavior change. The principle focal program of the partnership—My Choice, My Responsibility (MCMR)[15]—is a faith-based abstinence and behavior change program targeting youth ages 11-14. The program is extra-curricular; teachers volunteer to participate in trainings and then implement the program with their school children (e.g., before school, after school, on Saturdays, etc.). Early in the partnership the U.S.-based team worked closely with the Kenyan team to refine and develop the existing curriculum. In subsequent years, the U.S. team has helped to design and deliver training, capacity building, and technical assistance to national teams of teachers and administrators. One interviewee described the development of the MCMR curriculum this way:

[14] The AIHI is a non-profit corporation created by the U.S. Agency for International Development (USAID) in 1992.
[15] The name of the program has been changed in an effort to maintain confidentiality of those involved.

> [It involved the U.S. team] meeting with our partners [in Kenya], and they got together a panel of teachers and we have an Expert Advisory Board that, we call them our EABs, and they're teachers and school administrators who sat down with the existing program that they had and made dramatic improvements to it and came up with the six modules that we have that focus on self awareness, substance use, HIV/AIDS, healthy relationships, behavior change and abstinence, and then a module just on human sexuality. So they came up with the program and then they tested it out in schools and youth liked it a lot. And they got feedback from teachers and there was sort of a long development process that I think took about a year and a half to get what we have as our final program today. And lot of that was with input from us bringing in the technical knowledge and the technical stuff around evidence-based interventions, or characteristics of what we call evidence-based interventions in the U.S., around the world. So we did literature reviews of what programs worked than we brought that knowledge in with their local knowledge where they would give either proverbs or Bible stories or couched within, something that's very Kenyan so that they can have sort of ownership over those values or certain things we were teaching. So that was the development.

Both to give a good overview of the partnership and to present some discursive data, I present an extended quotation from a document describing various elements of the partnership and the curricula they use:

> This program targets children in Kenya's Catholic private and public sponsored schools, as well as other educational institutions that request the program. The long-term goal of the partnership is to increase the capacity of [the Kenyan partner] to design, implement, sustain, and evaluate their faith-based prevention efforts. The program they designed together contains two main components: MCMR and Families Matter!
>
> Specific objectives include strengthening the Kenyan partner's ability to train and support teachers in the implementation of a school-based youth abstinence and behavior change program; support Diocesan leaders and teachers in the implementation of a complementary Families Matter! program that targets parents; and develop a monitoring and evaluation system to facilitate ongoing updating, improvement, and expansion of these and related programs. To that end, partners have adapted successful abstinence and behavior change models targeting young people. These models incorporate not only Catholic doctrines and teachings, but also Kenya's rich and unique cultural heritage.
>
> Launched in 2006, MCMR is a school-based abstinence and behavior change program for youth that builds on standard HIV prevention information and activities included in the Kenyan Ministry of Education, Science, and Technology's National AIDS Education Syllabus. Partners integrated these messages with Catholic and African values, drawing on the rich and varied teachings of both to better arm children with the tools they need to safeguard their health and wellbeing. Since its launch some five years ago, the MCMR program has enjoyed the strong support of pupils, teachers, parents, and policymakers alike. The program is currently being delivered in more than 1,600 Catholic and public-sponsored primary schools within 25 of Kenya's 26 Catholic dioceses. As of October 2011, partners have trained 3,387 teachers to deliver the program and 423,634 pupils have participated in the school-based program. Prior to implementation, partners

> conduct sensitization meetings to share information about the program with local stakeholders and achieve community support and buy-in. Raising awareness about the programs will also be a priority for partners in the coming year.
>
> The complementary Families Matter! Program—which was piloted in Machakos Diocese in 2009 and in Meru Diocese in 2010—aims to increase family involvement in promoting abstinence and behavior change by training parents how to talk with their children about human sexuality, STIs, and HIV/AIDS. Adapted from the US-based "Parents Matter!" program developed by the US Centers for Disease Control and Prevention, Families Matter! equips adult caregivers with the communication and parenting skills they need to successfully support behavior change for children and young adults. To date, the partners have delivered the program to more than 712 parents and guardians through the efforts of some 24 trained program facilitators.
>
> Partners work closely with Radio Waumini, a national Catholic radio station, to deliver youth and family-friendly radio messages that enhance and reinforce both the MCMR and Families Matter! programs and plan to expand these efforts in the coming year. In 2011, they received approval to conduct targeted evaluation of 48 schools that will allow them to assess the impact of MCMR and inform future programming. Future plans also include increasing implementation of their programs for youth and parents, design and implement a communications and development strategy to facilitate dissemination of information and best practices, and participate in the Kenya National AIDS and STI Control Program (NASCOP) Evidence-Informed Behavioral Intervention Technical Working Group.[16]

This text makes reference to a handful of topics which I explore in greater detail below. Namely: the adaptation of U.S.-based EBPs to the Kenyan context, the "integration of Catholic and Kenyan values" in curricula, the program's participation in the National AIDS and STI Control Program (NASCOP), and the "targeted evaluation." A related text describing the program makes some similar references:

> The programme includes various characteristics of evidence-based interventions and is rooted in health behaviour change theories, including the Social Cognitive Theory and the Theory of Reasoned Action. Furthermore, the holistic learning modules and accompanying resources incorporate Christian and traditional Kenyan and African values to more effectively reinforce and sustain the messages. Throughout this process, the Kenyan partners led the curriculum development efforts with experts from [the U.S. university] providing guidance and technical assistance, largely on evidence-based behavior change interventions, programming, and monitoring and evaluation.

[16] Again to mask the identity of the focal program, I refrain from providing traceable citation information for this report and other texts that would reveal the program's identity.

Before I turn to the topics mentioned in these texts though, I offer this brief reflection on one of this study's limitations: The politics of HIV/AIDS prevention work—especially in postcolonial contexts—opens up countless avenues of inquiry, all of which are beyond the scope of this dissertation. In more general fashion, my analyses of the Kenyan project touch on some of the underlying assumptions about cultural universality, cultural difference, power, and African "otherness." Yet in the interest of feasibility, I stop short of exploring the body of work on postcolonial power relations pertaining to HIV/AIDS, sexuality, and disease (e.g., Sastry and Dutta' 2012 paper "Public Health, Global Surveillance, and the 'Emerging Disease' Worldview: A Postcolonial Appraisal of PEPFAR").

Current focus: A targeted evaluation to build the evidence base. As mentioned in the text quoted above, one of the initiatives undertaken by the Kenyan project since 2011 involves a "targeted evaluation," using a pre/post design to assess change over time on some participant self-reported behavior outcomes (e.g., participants' reports of their intentions to behave a certain way) with a stratified random sample of schools across Kenya. The importance of this targeted evaluation cannot be overstated. As the data I present below show, this evaluation is explicitly linked to MCMR's ability to continue to exist. Earlier in the U.S.-Kenyan partnership, CDC leadership in Kenya experienced a high degree of turnover, and the partnership perceived a good deal of liberty in how they conducted their business. Citing a common trait of large international development structures, there was disorganization, duplication of effort, and so on. Around 2008, CDC Kenya began reflecting the wider global trend of pushing EBPs, or evidence-based interventions (EBIs) as they are called in CDC domains. CDC, in the U.S. and abroad, has a number of initiatives related to their Diffusion of Effective Behavioral Interventions (DEBI) project, which began in 1999 after they published the first CDC compendium of evidence-based

behavioral interventions, listing programs that have sufficient evidence of effectiveness based on "rigorous" evaluation and research (with experimental or quasi-experimental designs). Many CDC scientists and administrators related to HIV/AIDS EBP (or EBI) efforts in Africa have published on this topic, focusing especially on the adaptation of U.S.-based EBPs to African contexts (e.g., Fitzgerald et al., 1999; McKleroy et al., 2006; Parker et al., 2012; Poulsen et al. 2010).

At the time that I began this study, the U.S. and Kenyan partners in the team were acutely aware that they had not generated sufficiently "rigorous" evidence (meaning evidence derived from an RCT) of their program's effectiveness. Increasingly, the CDC is requiring that the programs they support be evidence-based—or "evidence-informed," following an interesting discursive shift put forward by a 2011 UNAIDS document outlining preferred terminology in HIV and AIDS prevention work. As I propose in this dissertation's opening pages, the rationale that UNAIDS offers for this shift in terminology is germane to this study:

> In the context of research, treatment, and prevention, evidence usually refers to qualitative and/or quantitative results that have been published in a peer-reviewed journal. The term 'evidence-informed' is preferred to 'evidence-based' in recognition of the fact that several elements may play a role in decision-making, only one of which may be scientific evidence. Other elements may include cultural appropriateness, concerns about equity and human rights, feasibility, opportunity costs, etc. (UNAIDS, 2011, pp. 10-11)

Pertaining to the institutional changes occurring in the context of the Kenyan project, a CDC administrator reflected on the processes and definitions related to criteria for what counts as credible evidence:

> So one is having criteria for what you include as evidence, and it's something that has been done well in the U.S. by many different groups of outlining, mostly from a research methodology, research rigor perspective, of what would be defined as evidence-based or evidence-informed. The one, off the top of my head, that I think is best, or works very well is the Prevention Research Synthesis Group, which is part of the CDC in the domestic HIV group. They do a good job of outlining what, for both individual level, group level, and community level interventions, what they feel is the criteria needed to be

> included as evidence-based. And they have different levels, or they did in the past. I think they might have moved to not as many levels, but they had kind of "best evidence" and that would be having a certain sample size, a certain significance, how long the follow up was, how randomization was done, really looking at the research elements of it to determine whether or not its evidence. And when they initially started, which was quite a few years ago, maybe 12 years ago with their first compendium, the criteria were much looser and as the research has gotten better and better they've been able to tighten it and say to be the best evidence you really have to follow up for at least 6 months and you need to have an effect size of at least this much. That is something that we have not really done here in Kenya. At the moment we're mostly adapting interventions. And we've just been going at this full speed. It's not an area where we've really defined what criteria are actually needed to be included here.

One interviewee described how a U.S.-derived EBP "presented itself" to them during the period in which the focus on "evidence-based" sexual health education increased in Kenya:

> The foundation and the presence of CDC has changed drastically since we started working in Kenya in 2005. … And so we went through a series of "CDC bosses" from 2005 to about 2008. And then essentially what happened though around late 2008 was an EBP, called Families Matter! presented itself to us and in Kenya. And it is a program that came from an EBP in the States called Parents Matter! and sociologist or senior research sociologist Kim Miller from the CDC, she actually had been in Kenya doing an in-depth cultural adaptation of Parents Matter! for many years. So it was born then, as that Families Matter! So in 2008, Families Matter! essentially was the big talk in Kenya and given and, again to be frank, huge access to youth in Kenya, roughly 40,000 youth annually, unsurprisingly, CDC had mentioned Families Matter! to us. So essentially what happened from 2008 to 2009 is many of us were trained on Parents Matter! and Families Mater! It was definitely being shopped around to us. And then a CDC formal administrative head, was put into place in a way that, really, CDC presence had not happened before. So the first EBP came forward, [the new administrator] was sent in, and then over the next kind of months, what essentially happened, and we heard this directly from [the new administrator] and CDC, was CDC was completely reorganized and given a mandate to start bringing evidence-based programs to Kenya.
>
> So we sat in this little presentation and [my colleague] and I proceeded to watch a slide that had listed several DEBIs that we were familiar with from the HIV world, the slide detailed those DEBIs as being of interest to be placed in Kenya. None of them were born out of Kenya, certainly. They were born mostly out of U.S.-based black Americans, so out of that came this grand idea that we should bring them to Kenya. So, you know the difference is that Parents Matter, Families Matter! really was a multi-year cultural adaptation process whereas some of the other programs that were being presented to us, really weren't coming with the same message of long-term cultural adaptation; they were really being presented as being possibly ready to test out. So that was a little alarming at the time. And really, the similar messages have just continued to happen over time, which is CDC has received a message from whoever or its part of their agenda that they need to implement evidence-based programs in Kenya, so U.S. money needs to be implementing evidence-based programs and quite frankly because there haven't really been monies to

> test, to develop and test interventions in Kenya, what were left with is lots of emphasis on using U.S. programs.
>
> Now, we're fortunate because Families Matter!, we were able to do a Catholic adaptation of it and our Kenyan partners are quite pleased with Families Matter! I think what's been challenging, is historically not much, not the same emphasis has been paid to our homegrown indigenous school-based intervention [MCMR], but most recently, as recently as a couple of weeks ago, our initial outcome evaluation looks strong, and so CDC seemingly is more interested in our homegrown school based intervention on the mere basis that we finally have some data.

This person later described the randomized evaluation design used in the outcome evaluation, sarcastically, as "our great positivist model." Another interviewee provided even more information on the evaluation, first discussing the creation of the Kenya HIV Prevention Intervention Assessment Tool (KHPIAT):

> The CDC worked with NASCOP to develop a tool [the KHPIAT] that could be used to evaluate all the programs that they're funding. To make a determination of whether or not they're evidence-based or whether or not they are programs that they want to discontinue funding. So our funder at CDC Kenya had a conversation with us about it and basically said we need to get more data. We still are unsure about what evidence-based means to them.
>
> There's this process, they've set up different things to look at about how the program was developed, how it is implemented and it's going to be reviewed by a panel. We're expecting our program to go through that this year, later this year. She [the CDC administrator] said that our program would be in a much better position to receive approval form that board if we had some data that demonstrated that our program was effective in certain areas. So we didn't have any money; we weren't given any additional money to do an evaluation. We had to just do it. So when we kind of knew that this was where things were going, we wanted to make sure that we don't lose funding for the program so we were feeling pressure from our funder to make sure that we got some data to demonstrate that our program was effective.
>
> But there is another side to it which is also our program had been running now, we were in so many schools, we had scaled up and we're in a good place where the program is running. And we want to know for ourselves is this program really doing all the things that we think it's doing, that we're hearing anecdotally that it's doing. So we ourselves did want to also do an evaluation, but it was more for program improvement. We wanted to find out where are we doing really well, where are we not doing really well, are there things that we need … to focus on or are there things that we can deemphasize in the program; those kinds of things. So we wanted to do an evaluation ourselves, our funder was basically telling us we had to do an evaluation, so with that we developed our targeted evaluation of the MCMR program.
>
> We developed a pre- and a posttest that looks at knowledge and intentions, so the knowledge we're hoping that they'll gain related to HIV or whatever that specific module is, and then intentions, are they actually shifting their intention to behave in a certain

> way. So we developed six pre and post tests for the six modules and then we developed an overall pretest and an overall posttest, that has a lot of knowledge, it has a lot of intention, it also has attitude and actual behavior questions. So how are they actually behaving? That process is now completed. Our youth have finished the program but the data is still coming in to our office in Kenya and we're keying it all in and that's where we are in the process right now.
>
> We did do a preliminary analysis because we had enough data on the six module pre and posttests to get a sense of where things were, and we, on our last trip when we were there in December just a month ago we looked at all of that together with our partners and with our CDC officer and it actually looked very good; overwhelmingly positive. So out of 60 items that we looked at 48 of them we saw a positive movement that was statistically significant and on the 12 items that we didn't see a statistical significance, that were in areas or modules that we expect more data to come in so we actually expect when all of the data is and we run the analysis that we actually did see really positive movement in knowledge and really positive movements in their intensions to behave in the future.
>
> We haven't looked at actual behavior change because that's in our overall pre and our overall posttest which hasn't been entered yet. But we're actually fairly positive that the data is coming out the way that we wanted it to. But that's all in preparation for us to go sit through this review that's going to be facilitated by NASCOP ... our program. And we'll basically show them our program, they will evaluate it just based on its merits but then we'll also send them the data that we've collected on the program to demonstrate the evaluation that we've done and what we think the program is doing.

The week-long meeting I observed in Nairobi in August of 2012 was almost exclusively focused on two related issues: the requirement from CDC to scale up Families Matter! (FM!) to reach more participants, and the requirement from CDC that the project build the evidence base for MCMR in order to continue to be funded. They literally negotiated over the numbers of participants who were to be reached; FM! is much more expensive to run but the project is flat-funded, so in essence this was a case of being asked "to do more with less," as far as the project team was concerned. Doing this targeted evaluation has put a considerable strain on the Kenyan partner. They only have one staff person devoted to evaluation; his workload was already significant prior to taking on this large and fairly daunting evaluation. The Kenyan partner organization benefited from a university student who interned with them to help them enter and manage the huge volumes of data that came in.

In the Nairobi meeting, the project team was also trying to get more details from the CDC administrator about the KHPIAT, especially since that tool was clearly an important factor in the decision whether or not to continue funding their project. The development and implementation of the KHPIAT had been delayed numerous times. Although the timeline for the roll-out of the tool was still uncertain, during the meeting the CDC administrator did share a draft of the tool with the project partners. The draft tool was based heavily on the work of (and was reviewed by) a leader in the EBP field, a person whose name frequently comes up both in the context of the Kenyan project and in the context of ACT for Youth: the late Doug Kirby.

As stated in the introductory text included in the tool:

> The Kenya HIV Prevention Intervention Assessment Tool was designed to guide the systematic assessment of homegrown HIV prevention behavioral interventions that have not been rigorously evaluated. The assessment will help the Ministry of Health to ensure that behavioral interventions implemented in the country are of high quality and include characteristics of effective interventions. This tool is specifically designed to assess individual and small group behavioral interventions and is less suited to assess community level and video-led interventions.

The tool has five sections: (a) Intervention Development Process; (b) Implementation Characteristics; (c) Delivery Methods; (d) Content; and (e) Feasibility, Acceptability and Affordability. As stated in the tool's instructions, "Each section outlines characteristics found in efficacious interventions and which will help assess the likely effectiveness of the intervention under review. The characteristics in each section are further categorized into two types:" Highly Significant Characteristics, which are weighted more heavily, and Important Characteristics (ibid, p. 4).

Reflecting on the MCMR program and the impending testing of that program via the KHPIAT and the targeted evaluation, a CDC administrator involved in the project stated:

> At different times, when we were really making a movement away from things without evidence to EBIs, we considered at different times telling [the Kenyan partner] they need to move towards one of the EBIs, but because they have this targeted evaluation in place

> and because they've based it on characteristics of effective programs and they kept such a strong model with the religious tone, too, which is so important here and culturally relevant in Kenya, we've continued to let it go and try to improve the quality.
>
> One of the things that I've really worked on them … is again that issue of fidelity and not just doing adaptations as you go along. [I observed teachers who were] supposedly doing MCMR and they were surely … a little bit here and there but they really weren't remaining faithful to the intervention and so we worked on that a lot. And they were also working with classes of 80 or so, which one of Kirby's 17 characteristics is that you work with small groups. And that's also one of PEPFAR's requirements. And so we've worked on that.
>
> There's been a movement towards trying to improve the quality of MCMR as we go a long and then this targeted evaluation. And then the third component of it becoming evidence is something you've probably heard us discuss is we've developed what we call the KHPIAT, Kenya HIV Prevention Intervention Assessment Tool. It's a curriculum analysis tool to look at characteristics of effective programs. So for those programs that have not had those resources to be rigorously evaluated, you can use this tool that is really based on the literature on effective programs to kind of grade it and determine if it's likely to be effective That's something we developed here in Kenya based on models from ETR and the Division of Adolescent and School Health and other resources. And we'll start using it; MCMR will go through that process to determine if it reaches a certain score. And we actually have a score that interventions need to meet and if they don't meet it what we do is decide if they really do need to be retired because we don't think they're ever going to be terribly efficacious or if they need to be improved to be more likely to be effective or if they are reaching the score and then they can become an EBI here in Kenya and be scaled up.
>
> So that's something that we're hoping to do very soon. It's taken us forever. And MCMR is one of the ones early on that will have to go through this process. So that, the targeted evaluation and all the quality improvement that we've done, or that they've done. And the group has been incredibly receptive to all these ideas. Hopefully we'll have … intervention considered an EBI. So at this point I would not consider it for Kenya an EBI, it has not yet reached the mark. But because they have such a strong dissemination model, they've been so good about the process of development and being receptive to feedback, we're hoping they get there.

In the following chapter, I provide still more detail around the work processes involved in trying to "get there," in moving "from things without evidence to EBIs."

Summary

As the data and initial interpretations presented above show, all three focal programs face institutional changes that emphasize the constitutive role that knowledge hierarchies—sometimes tacit, sometimes explicit—play in their work and their realities. ACT for Youth, which originated as a broad-based center focused on promoting community change in favor of positive youth

development, now focuses most of its efforts on surveilling the implementation fidelity of EBPs; 4-H, which for over one hundred years has been at the nexus of research-sharing and youth development, is being resituated as part of the translational enterprise; the Kenyan project, which proudly touts the cultural relevance of its "homegrown" curriculum that was developed in partnership across the Atlantic, is engaged in "the great positivist model" and awaiting its date with the rating tool, as the project's very existence hangs in the balance.

In these contexts, through these data, a handful of key themes come to the fore. We see various manifestations of knowledge hierarchies in action. We begin to see how evidence-based program and evidence-based practice work is actually practiced. Through those glimpses, we see the emergence of perspectives and assumptions about what non-formal education *is* that are manifested through that work. In the following chapter, I highlight the emergent answers to those questions, also shining a light on the conflicts that emerge through that work related to those perspectives and assumptions. Throughout, I see signs of hope for "meeting in the middle" through efforts to meld different ways of knowing in more equitable and efficacious ways.

CHAPTER FIVE

MAKING "EVIDENCE-BASED" NON-FORMAL EDUCATION

The core focus of this study is on the details of the work involved in making non-formal education to be more evidence-based. As I mention in chapter three regarding the methodological challenges inherent in observing and "seeing" EBP implementation support and related work, many of the work processes of interest to me in this study occur in people's offices as they work alone in front of a computer screen. When I asked interviewees to describe the details of their day-to-day work, people mentioned responding to emails, reading journal articles, searching the internet, and participating in meetings. Among these everyday office work practices, as much as possible, I tried to be attuned to the particularities of EBP work, which I present in the next section. Focusing, in turn, on all three focal programs, I attempt to answer the question: How is evidence-based program and evidence-based practice work actually practiced? Then I ask: What perspectives and assumptions about what non-formal education *is* are manifested through that work? In response, I find that there are many performances of non-formal education. It is sometimes performed as a group of programs that is, in essence, an infrastructure for the dissemination of scientific knowledge; other times it is performed as a set of practices that essentially constitute a grassroots site for democratic knowledge sharing. Finally, in response to my third question focused on the conflicts that emerge through the work related to those perspectives and assumptions, I present tensions and gaps pertaining to the adaptation of two specific EBPs: Responsible Choices and Be Healthy[17]. To close this chapter, I identify some hopeful notions about how different ways of knowing and being can "meet in the middle" instead of fighting it out.

[17] The names of both of these programs have been changed.

The Details of Practice

Below, I draw from interview, textual, and observation data to paint a detailed picture of what it actually looks like when someone "does intermediary EBP implementation work" or does related work to make non-formal education more evidence-based. I first provide a picture of each of the three focal programs separately and then turn to extracting and synthesizing themes that occur throughout all three contexts. In other words, considering each of this study's three focal cases one by one, this section answers the question: How is evidence-based program and evidence-based practice work actually practiced?

In ACT for Youth. When study participants related to ACT for Youth describe what it looks like to actually support the implementation of EBPs, they usually mention offering training, technical assistance (TA), and evaluation support to the 58 providers. They offer in-person trainings, webinars, narrated PowerPoints, short publications, online resources, and more. They help providers choose which EBP they should implement, train providers on issues related to implementing EBPs with fidelity, and create and distribute a number of different evaluation instruments which providers then use to generate data that either goes to ACT for Youth staff for analysis or goes directly to NYSDOH. It is important to note that ACT for Youth has two distinct constituencies: the providers and NYSDOH. Situated between the two, ACT for Youth works closely with both. According to an administrator at NYSDOH:

> Well, they [ACT for Youth] have had multiple functions. They have what I consider to be their outward function, where they do a lot of support, training and technical assistance to contractors that we fund and really work to, they kind of act as an extension of us as far making sure that people are really achieving the outcomes that are intended in these programs, and then they have what I refer to as the inward function which is really to give support to the Department of Health. They provide a tremendous amount of topic expertise as well as general support for some of the policy directions that we choose to go into.

ACT for Youth staff meet via phone frequently with NYSDOH. They discuss issues and challenges facing the providers, they explore future directions the initiative might take, they discuss evaluation data and findings, etc. Providing a concrete example of TR in the context of relationship between ACT for Youth and NYSDOH, one interviewee said:

> I'll get a call from the Health Department and they'll want to know something, it could be a banal question like … "When we fund community fairs, are those effective ways to give out information for adolescents?" … Or incentives: "What do we know about incentives?" Because they want to know what the research says about whether or not incentives improve or change behavior. And then they're going to write it in to whether or not their policy will allow people to have incentives in the work they're doing. So that is a translation process that goes directly into policies.

When asked for more detail about these translational processes about how research and practice come together through the work, like in the case of the NYSDOH phone call requesting research-based information on a particular topic, the interviewee said:

> I hang up the phone. I call [an ACT for Youth colleague], or if I have some undergraduate research assistants, I say, "Who can do a literature review on this?" We mobilize… [Another colleague] is like an incredible source of information. If she doesn't have it she has like 12 different reports that she'll pull and she says I read it there, I read it there, I read it there. She is constantly in the literature and she has an amazing memory. Her office is filled with materials and she'll pull it, she'll know where it is, in which of her 30 piles it is. And so she's a super source. And then, what we'll do in sort of planning, which happens not every week, but every few months, "Hey what are the publications we have in the pike?" We get requests from the field. We get people…, we ask our providers, we always do surveys. Oh God, we collect a ton of surveys.

Here, the interviewee refers to the many needs assessment and evaluation instruments that ACT for Youth continuously uses to gather feedback and other data covering a diverse array of topics from the providers, including telephone interviews with all 58 of them. Highlighting the dual-constituency role of ACT for Youth, this interviewee continues by talking again about NYSDOH requests:

> Then we're also getting requests from the Health Department. "We think you should tell them," you know…So we get it from multiple sources, from the users, from our own expertise, we think they should know about this and then from the Health Department saying we want them to have this kind of information. "What do we know about adapting

> evidence-based programs?" So … our staff is responsive to requests from the Health Department and were also planning and thinking about how we're going to do this work. What is it that they need? What are we learning from our TA, what are we learning from the fidelity checklist.

Providing an instance of the two-way information flow that is said to characterize TR, this interviewee went on to discuss a publication that is coordinated by the ACT for Youth communications specialist:

> And we do another great little publication called CAPP News … where we feed data back to them [the providers] about what we're learning. So we're very conscious of not wanting to just take and take and take from them, but we actually then synthesize what we're learning from them and we bring it back and that really keeps them going. So if I did an educator survey and I got responses from 75 educators or something, and then I write up what it is that we learned and they look at it and they go, well our educators didn't participate but maybe next time they will. So it's kind of an engagement, it gets them engaged and keeps them going.

Here, the interview highlights one of the instrumental values in a two-way information flow—people are more likely to keep providing data if they see some evidence of how it is being used.

One of the ACT for Youth staff members referred to above is a key actor in this intermediary EBP work especially because she has frequent contact with the providers. She is involved in much of the training and TA activities with the providers. Below, I provide an extended quotation of her presentation of what ACT for Youth's EBP support work with the providers looks like:

> A typical day, you would see a lot of email exchanges. I get emails from people asking me about adaptation of evidence-based programs (from the folks in the field) so I get anywhere between, sometimes its low like 5 request a day to maybe 25. Also I spend time, review materials of the evidence based programs, of additional stuff, of updates that publishers putting out about these programs. I'm on various list serves so I do get a lot of information coming in, so I'm trying to sift through this what is helpful what is not. I do meet with people individually, like with the communication person, always touching base with Jane as the project director, with the evaluation people, try to stay on top of what's going on there. Do read. I do read. I do a lot of, like, short writing of shorter materials in terms of guidelines for how to use certain things, I do stuff for the web, I do CAPP news; I wrote most of the CAPP news based on training experience. So I do think about upcoming trainings. …

So based on the training cycle, we put a CAPP News together, lessons learned kind of where here are some tips or whatever and then we also put some stuff, additional new resources on the website. So we're trying to create this feedback and the putting it out to people in webinars, or sending it out with the CAPP News. But it's challenging, because, I don't know, it's really challenging to figure out what gets to people. And a lot of people don't read. That's definitely something … It has to be short. Some people it has to be in a training but then often you don't get the right people in the training. It's a self-selecting group. I don't mandate them. And webinars can be a mixed bag, so people get different pieces. Sometimes it's like chewing things over for people and sending them the same information that was in the webinar, but I do it in a one-on one email or conversation where I give them all the links directly and then they can open it up. It takes many different ways to get messages across and certain things across. We do develop materials like checklists, and how do you orient new people, guidelines, all kinds of stuff.

… Yeah [I do one-on-one support on the phone]. From the 58 providers, I have some I'm in fairly regular contact with, others I hear only occasionally from, some I probably never hear of. But we have three other trainers; I'm often involved or I definitely supervise the development of the training material and the training outline. We develop some trainings jointly, put in like a little retreat, or call people together. We have brought in consultants in the past. So if we needed an expert we bring them in. … I worked with the guys from the Asset-Based Community Development group [based at the School of Education and Social Policy at Northwestern University[18]]. So they have a faculty that's across the country, but I've been to Chicago several times to their workshops. … I worked for a couple of years with Bob Francis; he's in Connecticut. So we've done training together; he's done webinars for us. We did joint events, presentations together. Similar with some of the sexual health providers; Healthy Teen Network[19] is the national technical assistance provider. And they came to help us develop a training here, like a three-day retreat kind of thing. I go every year to their annual conference and present at the conference. We've done other consultations; they've done training for us where they just offer training providers; you know we pay them and set them up. So we have a good relationship with some folks like that. … And even Advocates for Youth[20] and National Campaign [to prevent Teen and Unplanned Pregnancy][21] and some of the big providers or some other big TA provides. So it gets after a few years, you get to know folks and you go to some of the conferences where they all come together. But also outside in the youth development field. So I'm going to go to Ready by 21[22] national meeting this year and I'm going to hook up with Karen Pittman and some other folks; because we worked in the past in the youth development track. And then we had some folks from New York like Larry, he used to be OCSF, Office of Family and Children's Services and he's now working for Karen Pittman. We'll hook up with him; we'll hook up with people from the Search Institute that are involved in that. So over time you get these connections, so that helps bring in some outside consultants at times.

[18] http://www.abcdinstitute.org/
[19] http://www.healthyteennetwork.org/
[20] http://www.advocatesforyouth.org/
[21] http://www.thenationalcampaign.org/
[22] http://www.readyby21.org/

> … I mean it's a lot on the one on one TA, responding to resource questions. We did several training cycles at the end of the year and continue now that's more focused on community collaborations: How to build an effective community advisory group, how to engage outside non-traditional partners such as faith community or parents or businesses. And now the next training cycle will be in how to create community readiness for change. Especially in sexual health it's such a hot topic, so how do you create some, move toward changing some of the community norms, some of the conservative community stances on sexual health for adolescents?
>
> … [That is related to] Core Strategy Four. And it's around creating a more supportive environment for adolescents reducing teen pregnancy, which is like broad goals, reducing teen pregnancy by creating more supportive environments, maximizing the existing resources in utilizing existing resources but also have a community advisory group that you either create or if there is one already that you can be part of and the agenda matches that would have like an action plan that assess what's going on in the community and have an action plan to move things forward. So it's a huge agenda—not a lot of money's supposed to go in to that. So we have people in New York City and then we have people along the Canadian border, and Pennsylvania border and Rochester and Buffalo and in between. So it looks very different in New York City and in Long Island than it does in Buffalo and Rochester or Oswego or the North Country. So it's hard to people are always like, there are lot of people out there that look for the recipe [snaps fingers] this is what I do and that will be it right, yeah, that kind of stuff. It's very hard to come up with a good recipe for that because communities are very different and you have different players at the table, different dynamics, and it's kind of, it's really interesting.

Amid this overview of some of the work involved in the training aspects of doing EBP implementation support work, evidence of some tensions emerges. For instance, the difficult balance between focusing on youth development outcomes and focusing on sexual health outcomes comes to the fore through the interviewee's description of which national partners she has worked with. Similarly, she discusses Core Strategy Four and how ambitious the related goals are, yet quickly mentions that a relatively smaller portion of the project funds are supposed to go to that area of work (75% of funds are to be dedicated to Core Strategies One and Two). The diversity of contexts involved in the project also poses a challenge. One essential premise of an EBP is its universality—it is a program "that works," assumedly (based on the logic that is central to the alleged power of the RCT design) irrespective of context. Yet in crafting training opportunities as well as in offering targeted support to the providers as they struggle to implement their chosen EBP with fidelity, contextual differences cannot be ignored.

Another important part of ACT for Youth's role in intermediary EBP support involves evaluation. They have four internal staff and one external contractor who are primarily focused on evaluation aspects of the work. To guide the day-to-day evaluation work, there is a "Tiny Team" that meets very often, on an as-needed basis. (The name "Tiny Team" simply refers to the fact that it is a smaller group of individuals than the evaluation team.) The evaluation team meets monthly, when the Tiny Team comes together with the director and the evaluation consultant. There is also a regular monthly meeting where the evaluation team, the training/TA team, and the communication specialist come together. Another monthly meeting involves all of these locally-based staff, plus other individuals representing Center of Excellence partners in New York City and in Rochester; NYSDOH representatives are occasionally involved in these meetings as well.

In general, the evaluation support work entails creating fidelity checklists and surveys, training providers on how to use those checklists and surveys, doing interviews, focus groups, and observations, following up with providers who fail to return the necessary evaluative data, analyzing and reporting data, and so on. To date, almost all of the evaluation focus in ACT for Youth (in the CAPP initiative era) has been on evaluating the implementation of the EBPs. There is a focus, following the NYSDOH's guidance, on tracking implementation fidelity, numbers of youth reached, and numbers of sessions provided—output data. The evaluation team has created and shared a wide array of evaluation tools, but all except the set of tools called "eval. packets" are optional. For instance, ACT for Youth created a youth satisfaction survey for participants to give feedback to the facilitators about the program. This tool, which is used by a few of the providers, is designed for program improvement and is not shared externally with ACT for Youth or the NYSDOH. Similarly, ACT for Youth has worked to collect pre and post data, using

youth self-reports, on youth participants' intentions to change their behavior regarding certain sexual health outcomes. For a number of reasons, such as resistance from one of the largest providers and from some of the school systems in which the programs are offered, those efforts to collect outcome data from students have been stymied. Apparently, some of the pushback was because people found the questions on the pre/post survey to be too risqué for youth; ironically, the entire initiative obviously focuses on the same subject matter covered in the pre/post surveys.

Describing "the nitty-gritty" of the evaluation work, and the centrality of the "eval. packets," one interviewee said:

> We have a billion eval. packets coming in; what's our process for dealing with these, cleaning these, getting corrections, extracting data, how are we managing this and what are we focusing on right now, priority wise, so the eval. packets just keep, keep, keep coming in so sometimes we have to set things aside for a little bit and come back, get some other project done.

The eval. packets consist of the requisite checklists and surveys that each provider must return to ACT for Youth upon the completion of each cycle of EBP implementation. Figure 1 shows one section of the implementation checklist that is included in each eval. packet. Information contained in the packets includes attendance information, participant characteristics, characteristics of the cycle and information about any adaptations that the providers made. Since there are 58 providers and some are implementing multiple rounds of different EBPs (each provider can choose up to three EBPs that they wish to implement), there is a constant flow of data coming back to the ACT for Youth evaluation team. The fidelity checklists are framed by ACT for Youth and NYSDOH as serving informational rather than judgmental purposes, but many ACT for Youth staff suspect inaccurate self-reporting of implementation fidelity is naturally due to the providers' desire to avoid punishment for poor implementation.

EVALUATION PACKET FOR BE PROUD! BE RESPONSIBLE (2006 Inc. Add-on Session)!

FIDELITY CHECKLIST

Facilitator(s)_____ Dates for this cycle ___/___/___ - ___/___/___

Site Location:

____ In School classroom ____ In-School after school program ____ Foster Care Facility ____ Other Residential Facility
____ Community Center /CBO ____ Faith Based Institution ____ Clinical Setting ____ Other:_____

Module 1: Introduction to HIV and AIDS

Activity	**Date Activity Was Carried Out** (MM/DD/YY) If not carried out write"O"	**Was Activity Carried Out According to Directions in the Facilitator's Curriculum?** Y=YES N=NO (describe changes in next column)	**If Changed, WHAT was changed and WHY? Please be specific: describe things you left out, added, or changed and WHY.**	**Were Changes (If Any) Pre-Approved?** Y = YES N = NO
A: Introduction and Overview		Y / N		Y / N
B: Creating Group Rules		Y / N		Y / N
C: Discussing HIV and AIDS		Y / N		Y / N
D: "What I Think about HIV, AIDS, and Safer Sex"		Y / N		Y / N
Please use this space if you have comments on this module or any of its activities:				

Figure 1. The ACT for Youth Fidelity Checklist for one EBP

Fidelity checklists come back with some qualitative data that must be coded, aimed at learning about what adaptations the providers are making to the EBPs. Here, an interviewee involved in the evaluation work of ACT for Youth talks about that aspect of the work:

> We're working on revising our qualitative coding scheme for our adaptations right now. So it's like working with the Tiny Team to really, the nuts and bolts, how are we changing this, what do our codes look like, how do these fall into broader categories, and how does that encompass what we were doing before, what's the left out if we switch to this systems. … For each EBP the fidelity checklist goes activity by activity and says did you complete this according to the facilitator's curriculum and if they say no, then they're asked to explain what exactly they changed and why, so it's coding that. And we've really focused on literally coding what and why, and I think we've kind of gotten the utility out of that. Like now we know OK, the biggest thing is they're cutting things or skipping things because they ran out of time, it's very clear. There are lots of other things going on too but that's absolutely the biggest trend. So between how large that coding structure is and the fact that it's kind of, we're done with it, we know, we've got it now. How do we make this more useful in moving forward to further advance training and TA efforts to just improve EBP implementation overall …

One of the major initiatives of the evaluation team during the time I was conducting this study was on defining what constituted success for the project. This focus was of interest to ACT

for Youth itself, but was also requested by NYSDOH. As the CAPP initiative unfolded, it was clear that some providers were performing much better than others. NYSDOH and ACT for Youth both had an interest in understanding what factors were related to success; but first they had to get clear on what being successful looked like. Then, especially because lower-performing providers are usually less likely to seek out the training and TA they need, ACT for Youth would roll out an "enhanced TA" project, meaning, essentially, mandatory remedial training for unsuccessful providers.

Charged with defining success in CAPP implementation, the ACT for Youth evaluation team looked to the Quality Implementation Framework (QIF), a tool developed by Abe Wandersman and colleagues (Meyers, Durlak & Wandersman, 2012) for guidance. They then devised a mixed methods approach to mining and collecting data from all providers to better understand some of the processes and outcomes related to more or less successful implementation. Wandersman is a colleague of many in BCTR and ACT for Youth. He is also a prominent figure in the field of evaluation. As such, his work frequently intersects with the topics discussed in this dissertation. Another of his frameworks, the Getting to Outcomes (GTO) framework (Wandersman, Imm, Chinman, & Kaftarian, 2000)[23] has also been used by ACT for Youth staff in their efforts to help providers plan carefully prior to beginning their EBP implementation. Unfortunately, the GTO planning efforts facilitated by ACT for Youth with the organizations that would eventually be funded through CAPP ended up occurring well before the programming actually commenced (because of the contingencies of delays in the release of funds). Also, the people involved in the GTO work were often not the ones eventually involved in implementing the EBP, and many providers apparently chose EBPs based on what they

[23] The GTO framework has been a popular tool in some quarters of the CDC, which creates another interesting institutional linkage between ACT for Youth and the Kenyan project.

thought would be feasible and easy to implement, not based on the needs of their constituents. According to one interviewee, reflecting on the fly-by-night reality of many of the community organizations that were funded to be providers in the CAPP initiative, "people don't really plan very much."

Returning to the current effort in ACT for Youth to define and assess success among CAPP providers, one interviewee said:

> So we'll be able to see, for each strategy, who's doing really well and who's not doing so well for each strategy. But then we can also collapse that and look at it across all four strategies, so who's doing really well and who's not, based on things that we know are going to be important, some of the numbers that we know are important. And then the qualitative pieces are really helping flesh out a lot of the context, what's making them be successful, what's helping, what are characteristics of the organization or context or timing, what are strategies and approaches that they're using that are coming out as being really successful and that higher achieving group, what do that have in common that they're doing, what common strategies do they have? So for example I really expect things like having an overall positive youth development approach is going to be really important, so that's not being captured anywhere in the quantitative indicators but I think that's really finding out so OK they're coming out at the top, so why is that? Because they're using a PYD approach, I can see that being part of that story.

Here again, we see the recurring theme of the importance of PYD, ACT for Youth's primary focus prior to the institutional changes brought about by the NYSDOH leading to the focus on EBP implementation. Before dwelling on this and other recurring themes at greater length, I first present some data on what intermediary EBP work and related efforts to make non-formal education more evidence-based look like in the other two focal programs.

In 4-H. As mentioned in the discussion of 4-H in the previous chapter, the most concrete manifestation of evidence-based education work in 4-H is a pilot project that has been active in the western region of the state during the last two years, Originally planned by Rhoda Meador and Paul O'Connor, the initiative was first called the "Shared Evidence-based 4-H Leadership Program Prototype." It was funded by CCE administration for three years, beginning in the fall of 2011. The project's name was later changed to "Research for the Continuous Improvement of

4-H." Whereas ACT for Youth staff are heavily involved in EBP work, and thus are very conversant in the language of EBPs, people involved with 4-H are much less aware of what EBPs are and what that term means. The pilot project has occasionally been referred to as "Translational Research in 4-H," so the people involved are at least somewhat familiar with that term. They may also have read Stephen Hamilton's memos introducing and defining TR. However, the name of the pilot TR project in 4-H was deliberately changed to frame the initiative in a way that would likely be more relevant and meaningful to the 4-H educators involved. Despite the fact that 4-H is not currently directly involved with EBPs, it is important to note that the pilot project was initially conceived as an effort to implement EBPs in 4-H. Numerous interviewees recounted that the pilot project's initiators were in favor of having 4-H focus on EBPs, a point that was corroborated by some internal documents that were shared with me. One of those initiators left to take a job elsewhere, and, as I mention above, when Stephen Hamilton took charge of the project, he intentionally steered it away from a focus on EBPs. On that topic, he said:

> I then changed the emphasis … mainly because I believed it was the case and I checked around with some other people who agreed with me, that in the kind of traditional way that 4-H works, there's no such thing as an EBP. They just, it's not that they're scarce, they don't exist. 4-H sometimes sponsors EBPs but they're run differently than clubs or afterschool programs or the things that they ordinarily do. So it's not as though EBPs have no place whatsoever, but I felt as though if we limited this to EBPs it would be a grafting process that I wasn't very optimistic about.

Instead, he collaborated with one particular educator in the Western District, who was hired temporarily away from her job as a 4-H educator to be a full time coordinator of the pilot project. Together, they then invited 4-H educators from a handful of counties in the Western District to come together as part of the pilot group for TR in 4-H.

Instead of the top-down pushing of EBPs, this operationalization of TR would involve searching the existing literature, mining existing data, and conducting original local evaluations.

In steering the project in this way, Hamilton was partially inspired by "improvement science," which, in biomedical domains, is advocated and practiced by the Institute for Health Improvement (IHI). Improvement science involves convening groups of researchers, practitioners, and other stakeholders to systematically leverage research results, best practices, and constant evaluation to introduce and test improvements. Hamilton has dedicated a great deal of thought on this matter, exploring various types of research and praxis that, along with efforts such as improvement science, are amenable to TR in 4-H.

Discussing impressions of the project's origins, one 4-H interviewee who participated in the pilot project stated:

> It started out rather obscure and there were a lot of questions, which is why some counties were slow to jump on board. But once it fleshed out and it was about doing scholarly research on improving 4-H, and what was really nice about that program, is to me it really embodies what Cooperative Extension is trying to fulfill, in that it's a two way street, in that we have "Here's out problems in 4-H at the county level in keeping youth involved and engaged and finding new audiences so that's some of our issues," and then having the research interest in proper evaluation and youth development principles that maybe we don't, at the county level, we don't have the good opportunity to keep up with. So I appreciate the real two-way street that's been.

The work on the pilot project commenced prior to the initiation of my data collection, so I was not able to observe the first meeting (in November, 2011) in which the 4-H educators from the five participating counties convened with the pilot coordinator and other CCE administrators. In that first meeting, the group brainstormed topics on which the pilot TR efforts should focus. The three topics that apparently generated the greatest interest were: (a) How to get parents and youth to make 4-H participation a more preferred choice; (b) Engaging, recruiting, and retaining volunteers/mentors; and (c) Fairs – what is their value to youth development and how can we document that? The pilot project coordinator then conducted literature reviews on these topics and created research briefs following a format that is emerging as an agreed upon standard format for research briefs in youth development. She also continued to meet, on a one-on-one

basis, with the various educators involved. Because of the regional nature of the program, she often met via phone with her colleagues, rather than in person.

In addition to the literature search aspect of the work, the pilot project coordinator also analyzed existing enrollment data (the basic information that is collected when people enroll in the program) to look for salient trends (e.g., relative to retention), and worked with a summer intern to administer a short interview survey to participants in the 4-H fair in all of the participating counties. At the various county fairs, the coordinator and the intern gathered data about the 4-H experience from 737 youth and 502 adults during the summer of 2012. The pilot project group convened again in December of 2012 to brainstorm more, review selected topics, and reflect on the data that the coordinator had generated from the county fair survey and from the enrollment data. At that December meeting, the group eventually formed two sub-groups that would focus in greater detail on some of the trends that emerged from the coordinator's analysis of the data: teen opportunities for career training and career exploration (especially in animal science and agricultural careers), and orientation and training for adult staff (paid and volunteer) about how to be a good 4-H leader. Deciding on these topics was apparently less easy than the coordinators had hoped. At one point, the coordinator said "I was hoping we could … come to a consensus … I don't know." The process left me wondering about the potential for a more structured group process such as concept mapping, or various techniques used in action research. This type of TR might benefit from approaches such as those.

One issue that was evident during the December meeting, and one that came up in a number of interviews, was the need to strike a balance between the standardization implied in collaboration on one hand, and customization to local county needs and wants on the other. In the meeting, and in subsequent work with the coordinator, one county strongly favored a "back

to basics" 4-H training for all volunteers (and paid staff) to review the guiding philosophy and pedagogy of 4-H every two or three years. However, other counties involved in the group worried that this type of training would be burdensome to the volunteers. The coordinator, who had explored the research base on volunteer development and retention, posited that the research came down more on the side of the latter—citing research on adult learning that suggests that trainings should be tailored to the learners needs and not patronize them by excessive repetition of basic material. The county in favor of the back to basics training dropped out of the pilot project soon after that. It is not clear why they did, or whether the disagreement over the type of training to be offered had anything to do with their decision. Either way, other factors were likely at play. Another county dropped out around the same time. The Executive Directors and the 4-H educators from the counties that dropped out (as well as individuals involved in the counties that remained in the project) expressed a clear concern that this project was adding to the work load of the educators, with no additional compensation available to them. However, other educators and Executive Directors involved stated that they perceived this project as a natural extension and a necessary part of the educators' work in 4-H.

The coordinator of this pilot project, reflecting on her role, highlighted the importance of her experience as an educator herself. This helped her respond to the other educators' needs and put research findings in language and formats that they could readily use. She also has experience with EBPs. She begins by providing her perspective on the origins of the pilot project:

> My position is called Evidence-Based Leadership. So it started out that way, it was proposed that way, but when Steve came into the role, when Rhoda left the position at Cornell, Steve came into the role and he realized very clearly and it was right prior to my actively taking the position, there were conversations and Rhoda was actually part of that and in the conversation, but Steve brought up that we could work towards evidence-based practice and that's actually what we're trying to do, such as the supportive place, good

> volunteer management, that would be an effective evidence-based practice, that that seems to make a difference in the retention of leaders, for example.

She proceeds to talk about an EBP, 4-H Tech Wizards, that she had implemented:

> So the Latino population that had utilized the program, most of them did not identify lots of other afterschool options, or at least their parents didn't support them participating in other afterschool programs and so they were very consistent in their attendance, they achieved great mastery in what they called the Tech Wizard program, so when I look at evidence-based programs, if I had been able to find the family support that was garnered in the population that had great success with this program, or if I had been able perhaps to limit the number of opportunities that the youth would have, because their parents either said you're in this program or you're coming home, it wasn't like lots of other options, I could really see why the experience and the impact that I was able to documents and some other people across the nation who also were involved in this initiative, when they weren't able to tap in to a particular population the program, we really weren't able to say what kind of impact, or we could have this impact because the dynamics that we found and the dynamics where it had been successfully used were quite different.
>
> I think that's what we're finding in 4-H is that to be able to identify what elements really need to be in place exactly as they were done before and where are the elements within the program that maybe don't matter so much and its OK if we have a slightly different environment or whatever, that is still, it still will work and I just don't think in many of our circumstances and in the way we program, we're not able to do that. Many of the juvenile justice, the delinquency prevention programs, which is where 4H has had some grants available and where evidence-based programs are mandatory in order to use the grant, we've tried to use that and we haven't had the same documented success and I think because we have the at-risk populations; At risk populations can be very, very different and I think that's what we were finding that we were trying to lump every group together that really weren't the same and consequentially the results weren't always the same either.

This quote again echoes concerns about the true generalizability of EBPs. At the same time, it poses difficult questions about the assumptions of universality that can so often be attached to culture. Hence, this interviewee can both warn against lumping groups together in the implementation of EBPs and at the same time suggest a totalizing discourse about Latino youth and family support. I return to these issues for further analysis below.

It is also important to note here that, while my data collection focused most closely on the pilot project in the Western District, TR occurs elsewhere in 4-H, as do various discussions of evaluation and the evidence base of programs. As is mentioned above, the state 4-H leader,

Valerie Adams-Bass, sees better connecting 4-H to research as a priority. She focuses especially on encouraging educators to create logic models for their programs and show where and how the programs connect to the three "mission mandates" of 4-H, which are STEM, Healthy Living, and Civic Engagement. Similarly, each of those three areas of work has a coordinator (two who are full time and one who is half time) housed in the state 4-H office in the BCTR. Among their many responsibilities, one of their priorities is making connections between research and researchers in their focal area and educators from across the state in their focal area. All three individuals who are in those positions, in my opinion, bring an impressively balanced and nuanced view of both research and practice—they have deep experience with both endeavors, and seem to truly have one foot planted in each. They can interact well with researchers and with practitioners, literally "translating" between the two groups of stakeholders.

> We are on campus, and we're trying to build relationships with faculty so that we can try to let them know what's going on in the counties. At the same time we're trying to build relationships with county educators and let them know what's going on on campus, but ultimately we want to take ourselves out of that equation so they can have direct relationships.

The work entails being a liaison between "these two forces; one is wrestling with the kids on the ground as these issues play out, the others are really trying to get at the meat of how to help youth or how we understand risk taking." The work involves being in between, filling that gap, and operating in both worlds comfortably.

> Translational research, that to me is so obviously what we need, to get this research quicker to folks in the communities on the ground but also make sure there's this feedback loop where what they're recognizing and struggling with can be brought to campus and say "Alright here's what they're doing, do you have anything that might be able to help them?" That's the ideal. … I get lots of feedback from counties. Finding partners on campus is what needs work. … The future of Extension and 4-H is based on that, due to the funding that can come through faculty.

The people playing these roles place a very strong emphasis on relationships. Much of what they do involves initiating and strengthening relationships on numerous axes with a variety of

stakeholders involved in research and practice. I explore some of the difficulties inherent in these bridging roles in the section on research, below.

Another way 4-H engages in efforts to make their programs and practices more evidence-based—a manifestation of TR—is through an annual "4-H Youth Development Research Update" that they organize in collaboration with ACT for Youth. The event, which is attended by 4-H educators from around the state as well as by other youth development professionals, usually involves research presentations from faculty members whose work has some potential bearing on 4-H youth development work, plus roundtable discussions in which participants can reflect on the research and share their insights from the field. As it is described on the ACT for Youth website:

> Each year the Youth Development Research Update brings practitioners and researchers together for a day and a half in Ithaca, New York. In addition to presentations on specific areas of research, the Research Update offers participants the opportunity to explore two questions: How can practitioners use research findings to benefit young people? Which questions emerge from the field that researchers have not explored and need to address? The event is sponsored by the Bronfenbrenner Center for Translational Research, Cornell University. (ACT for Youth, 2013b)

Many people involved in 4-H who I interviewed for this study spoke highly of this event and saw it as one good way for them to be connected to research. In some cases, educators have followed up with the faculty researched after the event and new research collaborations have ensued. In yet another translational connection between 4-H and ACT for Youth, Mary Maley, Director of the Research Synthesis Project at ACT for Youth, has received Smith-Lever funds to foster improved processes for reviewing and synthesizing relevant youth development research into effective research briefs. Research connections can also be explored in the Program Work Teams (PWTs), which are groups of educators and other stakeholders (including ACT for Youth staff and other people not directly related to 4-H) that form around a topic like STEM, healthy living, and risk and thriving in adolescence.

Yet a closer look as such research-practice connections can reveal tensions and conflicts, touching on issues related to the burgeoning literature on "use" in evaluation (Patton, 2007b; Weiss, 1979) and research (Hemsley-Brown, 2004; Nutley, Walter, & Davies, 2007). A recent addition to that literature is represented by a manuscript on "Research Use by Cooperative Extension Educators in New York State," authored by Stephen Hamilton, Emily Chen (a PhD candidate in the Department of Human Ecology), Karl Pillemer and Rhoda Meador (one of the two original planners of the pilot TR project for 4-H). That paper begins by reinforcing the dominant model of Extension as disseminator of knowledge:

> The Cooperative Extension (CE) system exists to disseminate the findings of research beyond the academic community to practitioners, policy makers, and the general public. CE educators thus serve as a bridge between scholars and the wider community. For example, scientists may find a way to apply pesticides more precisely, or discover the benefits of serving low-fat milk to children. Extension staff then educate farmers or parents, respectively, about the new findings. These examples illustrate what Nutley, Walter, & Davies (2007) called the "knowledge-driven model" of research utilization in policy and practice. (Hamilton, Chen, Pillemer, & Meador, 2013, p. 1)

Rather than "knowledge-driven," others would call this, critically, the "expert-driven" or "tech-transfer" model of Extension. The authors do admit the community-driven aspect of Extension, but—unlike Liberty Hyde Bailey and Ruby Green Smith—they do so in ways that discursively position those functions as clearly less important than the dissemination functions: "Although CE is primarily a conduit for disseminating research-based knowledge, it is also a system that can enable wider community participation in research" (ibid., p. 2). The study represented in their manuscript involved gathering on-line survey data from 388 county-based CCE educators around New York State to gauge their "research readiness." The operationalization of that construct involved conceptualizing "research in the work of CE educators as having three major components: 1) awareness of and attitudes toward research in Extension; 2) knowledge of research results, especially as embodied in evidence-based programs (EBPs); and 3) direct

involvement in research activities" (ibid., p. 2). I agree with the authors that we need to better understand how educators interact with research—this dissertation study attempts to contribute to that effort—but by so closely construing "knowledge of research results" with EBPs, their study limits the conversation.

Relatedly, the BCTR has a project called the Research Navigator Initiative[24], which is a series of workshops designed to teach CCE educators about research and to explore how to strengthen "campus-county connections" through research partnerships. The Research Navigator workshop series does not just teach CCE educators about research, it ontologically *makes* research to be a certain way, and attempts to make CCE educators into appropriate research partners. For instance, in one session from September 23, 2010, entitled "Research and Real Life: The Science of Intervention Research," Pillemer presents "what the faculty in the College of Human Ecology do, and also some of the departments in Ag. [the College of Agriculture and Life Sciences] like Education and Development Sociology; we wanted to touch on three main modes in which faculty to research, namely they do experiments, and they do surveys, and some of us do intervention research." Many of the faculty who teach research methodology in Education and Development Sociology, I believe, would recoil from and reject such a simplistic characterization of what research is.

In any case, the Research Navigator's goal of fostering stronger connections between county-based educators and campus-based faculty is shared by many CCE educators and administrators. Beyond their natural inclination, as dedicated professionals, to seek out relevant research to guide their practice, they are savvy to the condition described in the Hamilton et al. manuscript: "as many states' CE systems face declining numbers of CE faculty appointments, county educators have a greater responsibility to maintain connections to their university's

[24] Some Research Navigator materials are online at http://www.human.cornell.edu/outreach/Tools.cfm.

research base and require skills to stay informed about relevant research findings" (2013, p. 2). This brief statement touches on a state of affairs which—despite its rather unproblematized presentation in the Hamilton et al. piece—involves the privatization of public goods and services, signaling a dramatic shift in the landscape of U.S. higher education. For an enumeration of the literature on "the changing nature of the conversation about higher education's public purposes and work" and on "the contemporary trend to commercialize higher education by transforming it from a social institution that produces public goods and advances public interests into an 'industry' that produces private goods for the marketplace," see Peters (2007). It begs the question: Where does the onus lie to make university research relevant and useful?

In numerous interviews and in numerous contexts I observed, I collected data on efforts and perspectives regarding the various opportunities and challenges involved in connecting "campus" and "county." In effect, I observed people exploring ways to make their educational initiatives more evidence-based—emergent forms of TR in practice. For instance, on September 8 and 9, 2012, with colleagues in the Cornell Participatory Action Research Network (cPARN), I helped Davydd Greenwood and Richard Feldman facilitate a search conference on "the future of engaged and action research at Cornell. I also participated in the series of Action Research Institutes mentioned in this dissertation's opening pages; those events were designed to help researchers and educators co-create research questions. In my role as a Graduate Research Assistant with the Cornell Office for Research on Evaluation, I was a participant observer in numerous, varied meetings and workshops in which the overarching goal was to help educators build the evidence base for their programs; one way we seek to achieve this is by helping them use logic and pathway models of their programs to connect to research literature and potentially to researchers (Urban & Trochim, 2009). Karl Pillemer occasionally facilitates Community-

Based Participatory Research (CBPR) sessions to connect palliative care researchers and practitioners (Sabir, Breckman, Meador, Wethington, Reid, & Pillemer, 2006). I unfortunately was not able to observe any of these CBPR sessions; however, a colleague who did recounted to me that it involved reading a journal article reviewing the literature on palliative care and then brainstorming around that article. The invitation to the event, which was called "A Consensus Workshop on Research Priorities for Palliative Care," outlined the event this way:

> Please note that a "core responsibility" of attending the meeting is to read the background paper prior to the conference. The report summarizes what researchers believe are the key knowledge gaps in the field of palliative care. These results were generated by conducting a comprehensive review of the literature (over 300 papers) and by interviewing more than 50 researchers working in the field of palliative and end-of-life/hospice care. The primary goal of the conference is to add to this list by involving practitioners who may have different perspectives about what constitutes important knowledge gaps in this area.

As mentioned above, the administrators and coordinators at the 4-H state office in the BCTR actively seeks to build relationships between educators and researchers. Educators who can come to campus for events sometimes become aware of potential research partnerships and make contact with faculty. As mentioned above, at the annual Youth Development Research Update, some educators approach researchers following their presentations to ask about the potential for a research partnership, assuming there was some overlap in the two people's areas of work. One 4-H educator I spoke with did just that. A researcher presented on research with foster kids. The educator had a lot of experience with foster kids and had been thinking about the need to craft 4-H clubs to meet foster kids' need. During the Research Update presentation, she excitedly realized, "We need to come together! This person knows a lot about research on foster children, but noting about 4-H; I know a lot about 4-H but nothing about the research on faster children." Emphasizing the slow, intentional process required to grow a relationship with

someone, she said that she "went up to initiate the process with the researcher after, just to plant those seeds of a relationship. I'm not sure if anything will come of it."

In some cases, educators search for faculty members who are working in their area and then "cold call" them. On this topic, a CCE administrator in a county recounted a recent encounter he had related to his attempts to forge connections with researchers. At a BCTR event, he met Ann Marie White, Director of the Office of Mental Health Promotion and Assistant Professor of Psychiatry at the University of Rochester Medical Center. She spoke about academic-community partnerships that employ community-based participatory research as well as systems science methods in prevention research projects. Her mention of social network intervention was particularly interesting to this CCE administrator:

> She talked about the work that she's doing now with computer science people around networks. I said you know it's funny because I wondered if she knew any of the network people on campus here. I've been wanting to work with the network people on campus for a long time and I've tried a couple of different things and nothing had worked. And as I told her, I said, "My sense is that I'm not asking a question that's of interest to them." And she said, "Yeah maybe, but you know how I basically have been able to get them involved I basically just developed relationships with them, I went to their parties, I had dinner with them, I've met them for coffee" and she said, "You know, two years ago, there wasn't any interest in this and now they include this concept, these things on their proposals as part of what they're doing."
>
> So you know one way to eliminate the research gap, the research-practice gap is to make friends with [laughs] to have people making friends with each other, which is one that we haven't done explicitly. In fact this institute that we talked about, one of the things that we explicitly talked about in that institute is that this is really about building relationships between faculty and extension people so that they can they will develop question together that matter. And so I think ultimately that's the best way. The other way that we've done this, that I've done this, and the way that I thought of in my mechanistic thinking, because I'm not a relationship person, you know when I first came here was, hey if I can make, I am arrogant enough in my own abilities to think that I can come up with interesting research questions for most of the faculty who might be interested in working in community development in some fashion. Clearly I didn't when I came to the computer science folks. But the idea of figuring out the question, putting the onus on me to ask the right questions … so figuring out the right question is a way for practitioners to make it interesting for faculty to want to engage with them which is another way to reduce the research gap.

> So it's clear, what we have done is we've also looked at ways to look at faculty's research and then target faculty based on that research. So it's very much a salesman's approach. Really this is not much different than sales, even that idea of building relationships, that's a long-term salesman's approach, a person who's taking a long view towards sales develops relationships with folks.

There are institutional barriers. Especially following the College of Agriculture's decision to close Cornell's Education Department, there is a dearth of researchers on campus focused on issues of youth development and education. Some Cooperative Extension research streams, such as Smith-Lever grants, limit a Principal Investigator to one county partner per three year grant cycle. One administrator in the state 4-H office expressed concern around the issue that, when a county educator initiates a partnership with one of the few youth-focused researchers, then that faculty member is essentially locked up for three years, yet the decision of what partnerships are cemented and what issues are researched remains rather haphazard, unsystematic, and un-strategic. Additionally, many faculty members lack the incentive to work with Extension or in other engaged settings, since they are not rewarded for it. Regarding Extension, numerous interviewees reflected on the institutional change signaled by the disappearance of Extension faculty on campus. Those who do have a significant Extension percentage are often referred to as "dinosaurs."

Also, many faculty members apparently lack a clear understanding of "what it means on the ground" and how they should adjust their research plans accordingly. For instance, one researcher who is engaged in a research partnership with 4-H administers a survey at the end of the program that is 80 pages long. According to the feedback offered from educators (unsurprisingly), after the second page the young peoples' responses likely should not be treated as high quality data, since even adults would likely experience "survey fatigue" on such a lengthy survey. Extension educators and administrators need to gain the skills to negotiate on their behalf—whether about the length of the survey administered, the sharing of the budget, or

whatever factors are important to the Extension stakeholder. According to one CCE administrator, "Extension itself just about rolls over and it's very happy when faculty deigns to show interest in it."

According to some, the buy-in from faculty must be based on the educational organization's infrastructure and its provision—literally—of research subjects: "The buy in will come by saying look, you have all these subjects [laughs] that you can study. People are trying to advance their research by using some of the kids in our programs. That's just going to be the practical nature of the future as far as how we bridge the gap." Naturally, the educators ask "what's in it for the kids?" especially if randomization is involved, forcing kids to complete lengthy surveys without receiving any benefit. Tenure and promotion issues arise—it is a platitude that Assistant Professors cannot afford to do community-engaged work. Yet on the other hand, to obtain funding from NSF, NIH, and many other agencies and foundations, the research must compellingly make the case that the research will achieve broader impacts. Also, those faculty members who *do* have tenure and are interested in positive individual and community change should, as one CCE administrator sees it, do much more to initiate partnerships, since they have considerably more job security than any community-based educator. Another interviewee said:

> Seeing researchers here, they go directly from grad school into this. And I'm coming from a very different angle, so I think it's helpful to have this practitioners more involved, but they're not really that valued at Cornell, I mean this is like that layer that kind of doesn't exist.

In a similar vein, another interviewee was frustrated by what he perceives as faculty members lack of interest in community work:

> I left grad school with a negative impression of most faculty [laughs] in terms of priorities and what tenure makes you do and not focus on, and to hear A say "Here's what our faculty are going to be interested in, otherwise they just have no incentive, that's

> discouraging. We're trying to help our communities, ultimately that's Extension's purpose as I see it, I don't know why that's not everybody's interest, at least in part.

One of the interviewees who offered a similar critique of faculty members' lack of connection to community work admitted that "the grass is always greener on the other side of the fence," realizing that he might be less aware of the barriers and challenges facing faculty, yet still wondered why faculty members don't do more to reach out to Extension and other community-based educational organizations. Clearly, the model for making non-formal education more "evidence-based" through mutually beneficial "campus-county" or "university-community" research partnerships still requires refinement.

In the Kenyan project. In the Kenyan project, the work around EBPs is similar to the work in ACT for Youth in many respects but also differs in a few important ways. In both cases, the intermediary work involves training, TA, and evaluation support around youth sexual health behavior change programs. Yet in the Kenyan project, the team was involved in creating a "homegrown" program and then working to develop the evidence base for it. Many ACT for Youth providers used homegrown programs prior to the start of the CAPP initiative; many of them were interested in finding out how to make their homegrown program be "evidence-based." Apparently, there is some funding available from the NYSDOH for homegrown programs to be developed into EBPs, but I was not aware of any local programs that were actually engaged in that process. In the case of both ACT for Youth and the Kenyan project, adaptation and context are important factors; yet in the Kenyan project, the cultural implications are perhaps more extreme, as programs developed in the U.S. are increasingly destined for implementation in Kenya and other African contexts (with or without careful processes of cultural adaptation).

Above, I have already represented many of the details involved in the EBP work in Kenya, namely the work pertaining to the targeted evaluation and the KHPIAT. Here, I present

additional observation and document data regarding the negotiations around FM! targets and the efforts to solidify the evidence base for MCMR. Specifically, I offer a detailed look at the annual planning meeting of the Kenyan project that I observed in Nairobi, which was constructed around solidifying the Work Plan for the upcoming year. I was able to observe a remarkable change in the tone and content of the meeting over the course of three days as the list of participants changed from day to day. In day one, the group consisted of three U.S. team members, three Kenyan team members, and me. This was a close knit group that had worked together over the years; they were the project team. The next day, a representative of the Twinning Center joined the group. In this world of intermediary work, the Twinning Center actually plays an intermediary role of sorts between the Kenyan project and the CDC. So while day two did feature an "outsider" to the project team, it was someone who they see as a close ally. Day three involved the CDC administrator. Again, though this person is external to the project team (representing the funder who decides whether or not to continue funding the program), the team clearly has a good, friendly, respectful working relationship with her and appreciates her interaction with the team and its processes. Likewise, the CDC administrator was clearly "looking out" for the Kenyan project and working to facilitate the best possible outcomes for them. Yet this development in the participant list over the three days allowed me to observe: on day one, the internal team talking most frankly about the issues facing them; on day two, the team trying to get a sense from their intermediary to the CDC how interactions and negotiations with the CDC should or could go the following day; and on day three, the team interacting with the representative of their funder around the somewhat contentious issues about target numbers of participants to reach with each program and about the path to evidence for the homegrown program.

Early on the morning of day one of the meetings, the group began discussing the target number of participants they were expected to reach with the FM! program. CDC had requested that they reach 12,000 parents/caregivers in the next year. The project team had asked that the target be lowered to 7,000. The Kenyan team members reflected on issues that would affect their ability to reach these targets, such as the need for new "master trainers" to be trained, the need to go into new dioceses, and the need to revisit the timing of trainings to align with changes being made to the Kenyan school year calendar. The leader of the U.S. team, a faculty member at the U.S. university, mentioned the need to collect tracking data on the rollout of the FM! program, evoking "implementation science." This was just one time among many that I would hear implementation science mentioned, echoing discussions that are common in the contexts of ACT for Youth and the BCTR. For instance, one participant said "Targets are targets but the program is the program; we need to think about good implementation science, not just targets." Someone asked how the CDC representative arrived at the 12,000 number, to which another member of the team replied, "She said there was a reason for it." The group then discussed how to represent their rationale for reducing the FM! targets to the CDC administrator; someone suggested crafting the annual work plan to contain the details leading to the desired lowered targets.

In the back and forth around meeting targets, one of the participants reflected on how much effort is put now into jumping through CDC hoops; the group agreed that things had changed, and one person said, "It makes me sad." This type of comment was echoed later in the week as well, regarding the balance of power and agency between the CDC, the Kenyan partner, and the U.S. partner. The next section of the meeting was focused on going over the report from a recent CDC site visit to one of the program implementation sites. Out of this, a discussion emerged about the theoretical foundations of the MCMR program. One of the CDC

recommendations was to have the theoretical basis of the program be more explicit in the train-the-trainer manuals. Members from the U.S. team mentioned that the initiative has been based on theory from its very outset. Bandura's social cognitive theory guides much of the program, while the train-the-trainer approach is guided by diffusion of innovation and adult learning theories. One outgrowth of this discussion was the group's realization that they needed to pull together a number of existing materials to make a more comprehensive train-the-trainer manual. The team members then talked about how this would help make the program into "an intervention in a box," a term one of the U.S. members used somewhat ironically. One of the Kenyan partners laughed at this idea, to which the U.S. team member replied, "CDC actually uses that terminology."

The team then briefly discussed evaluation tools. They have a form, "Form 1," that each participating school must complete and return once every month. They also have an implementation checklist. These tools are quite similar to the eval. packets used by ACT for Youth. The tools are developed by the U.S. team members and managed by the Kenyan team members. The group then shifted to talking about the target evaluation. They discussed the possibility of having random assignment of schools, and of having control or comparison schools, not participating in the program, provide data too. In the conversation about the evaluation design, issues of selection bias and other threats to the validity of the study came up; one participant said, "Reality and science, merging together." Everyone laughed.

One topic of conversation that I found interesting, especially because it pertained to educator agency and expertise, was a plan that was emerging for a small research project focused on the teachers who implement the MCMR program. One of the U.S. partners (who was a PhD candidate studying adult education and evaluation), along with the coordinator of the Kenyan

partner organization, were developing a plan to interview and collect other data from the practitioners implementing the program. They were interested in trying to better understand the implementation of the program as an intervention itself, since they had seen anecdotal evidence of teachers experiencing transformational outcomes just by facilitating the modules with their students.

On the third day, the CDC administrator was generally very accepting and supportive of the projects proposed work plan. One of the U.S. team members mentioned that the capacity-building aspects of the program (e.g., by training teachers) was well-aligned with the next wave of PEPFAR funding that would be coming out shortly. However, this prompted the CDC administrator to respond by characterizing the next wave of PEPFAR funding as focusing almost exclusively on biomedical interventions. In that case, the behavioral intervention implemented by the Kenyan partner—an educational, not medical organization—would be at risk even if it were "evidence-based." As if to help calm the team's fears of having their funding cut, the CDC administrator suggested that certain aspects of the project could be construed as effecting "structural change," which apparently would be more valued in the new PEPFAR regime than behavioral change outcomes; this was another instance of the good collaborative relationship between the project and the CDC representative. This discussion also highlights the danger of "mission creep" when catering to a funder's wishes. As an educational organization, the Kenyan partner has a particular vision of what its role in the Kenyan educational system is, and it does not want to stray too far from that role. Throughout this presentation of the details of the work involved in supporting EBPs and working with evidence-based practices in the Kenyan project, in 4-H, and in ACT for Youth, I have presented data that suggest that there are conflicts

regarding what education is—conflicts that I interpret as "object conflicts" (Hess, 2004, 2007). In the next section, I deal more explicitly with that question.

Multiple Perspectives on Non-Formal Education

As I point out in chapter one, there are multiple ways of framing and understanding what non-formal education is. In that section, I draw from the literature to present some divergent perspectives on this question. Below, I draw from my data to offer still more perspectives on this question. Through this study's empirical lens, I saw non-formal education constituted as an infrastructure for dissemination of scientific information and, conversely, as a grassroots site for knowledge sharing. Throughout, there is evidence that people's views of education vary based on whether they place emphasis on *programs* or on *practices*, echoing some of Hamilton's points from his 4-H memos. Also evident is that different people and organizations have drastically varying perspectives on how humans act and experience behavior change; multiple praxeologies of behavior change were on display. I round out this section by sharing some stories of non-formal education successes. I hope that amid the debates and politics, these stories can provide a firm grounding, a reminder of what many would agree is the ultimate purpose of non-formal education: true, meaningful, positive change in individuals, families, and communities.

An infrastructure for the dissemination of scientific knowledge. Because of my interest in learning about how educators are affected by evidence-based education work, and because I am sensitive to the potential that educator agency and expertise are ignored or effaced through the work, I often asked interviewees to describe what makes a good educator. On a few occasions, I was surprised to hear answers that framed educator competencies in a rather mechanistic, industrial way, ironically (to me) not actually focusing on educator skills and capacities. One interviewee who has considerable power in shaping the future of Cooperative

Extension surprised me by stating that "If you want to do [TR] you need something like Cooperative Extension and so if we have this infrastructure already…it would, it strikes me as wiser to transform it than to, like, burn it down and rebuild it." Even though Cooperative Extension is often under duress, I was unaware that "burning it down" was an option. In any case, this was just one of many times this interviewee referred to the CCE system as an infrastructure:

> Wow, what a gift it is to have this infrastructure. You've got a state-wide infrastructure, it's sort of like the community colleges; people have a local Extension association that they can get to that … neutral territory. … But really just functioned as a place where people who would otherwise be not willing to talk to each other could come together and do significant collaborative work. You've got staff people in organizations that frequently have tremendous expertise as educators and as facilitators and as collaboration developers and so forth and you've got this reach which you don't usually have.

This person, who did mention the expertise of Extension educators in the quote above, also expressed a great deal of frustration and skepticism about Extension. Specific reasons included the lack of nimbleness and the lack of a good sense of bidirectional collaboration (which is ironic given that many Extension professionals I have spoken to habitually make the exact same critiques of the university):

> There has been historically real ambivalence by a lot of people about Cooperative Extension, for a lot of reasons. Just feeling like there wasn't a really strong bidirectional collaboration. Like for example a project in FLDC would do groundwork in something, and then it would be get reported and owned by a particular Extension association. And the credit, and I don't know the story wasn't shared a certain amount of important work that people did was perceived as being lopped off the story, so skepticism there. Also, my experience in the [one particular] project was of obtaining funds from [a state agency] primarily situating the staff people in Cooperative Extension associations and then having some funding disaster happen in those associations and I'd be the last person to know that my staff person in who I'd invested 10 years of development had been laid off, like that. And literally some stories where they'd be emailing me, and they say "Oh, I have to go talk to somebody and I'll be back to this email" and then they come back and say "Oh I just got a layoff notice;" so, no communication from a Board of Directors back to a program director that was investing funds. And then also nimbleness issues in terms of being able to really move programs, just sort of priority issues in terms of how much time people are expected to spend in meetings versus working with the communities.

This quotation demonstrates the perspective of the non-formal education organization as infrastructure and also signals areas which clearly require good communication and transparency in future efforts to connect county-based and campus-based work, especially in contexts of Cooperative Extension.

In similar fashion, I asked a CDC administrator about what made the Kenyan partners to be good educators (assuming that she agreed that they were good). She responded: "They're unique in their reach." I followed up with a question getting at the Kenyan organization's ability to be relevant to and connected with the community. She answered:

> I'm not sure that, I wouldn't say community … but it's the relationship to the Catholic Church and all the structures that are so strong there. So which, obviously the Catholic Church has a very strong impact on the community so it's through that that they do. And I think that they use the Catholic Church and the infrastructure of the Catholic Church in Kenya and the diocese and the relationship to the schools, they really use that well, which does, you're right, get them into the community very well.

Here, the CDC administrator is demonstrating her perception of the Kenyan partner as an infrastructure with a "good dissemination model." The ability to make the HIV/AIDS curricula acceptable to the Kenyan culture and the Catholic Church in Kenya is also important. In the next section, on the tensions and gaps involved in adaptation, I present a story about poor adaptation to those cultural norms in which this CDC administrator was involved.

A grassroots site of knowledge sharing. Many more interviewees conceptualized non-formal community-based education as more than an infrastructure with good reach, more than a good dissemination model. Instead, they characterized non-formal education as a grassroots site of democratic action in which multiple perspectives on the issues and solutions that the community perceives as important can be collaboratively addressed, a characterization which is borne out as always having been part of Cooperative Extension's past (i.e., if one reads the history of the organization) and of non-formal education's past more generally (i.e., if one reads

Freire). This version on non-formal education also tends to emphasize the expertise of community educators. Reflecting on the Kenyan organization's successes, one interviewee said:

> Yeah, we have a really talented group of people and I think that their biggest asset is that they all at one point were teachers or school administrators themselves on the ground and they have just an uncanny, it's their community, it's their schools and they know exactly how they run and they know what will work and what will not. There are so many times that we're sitting there and were thinking that from an ideal perspective we would love to have youth do X, Y, or Z, or teachers do X, Y, or Z. And they'll either say "Oh that would never work; I've been in a school I know a teacher they would never do that," or "Teachers would absolutely be able to do that because they do those kinds of things all the time." They just have a knowledge; they know those schools and they know those classrooms like the back of their hand. And they know how youth will react to those things, they know how teachers will react to those things, and they know how administrators will react. Basically their knowledge of how Kenyan primary schools run and the whole structure of their entire education system is a vital asset that we wouldn't be able to do anything that we're doing if they weren't at the table helping us make sure that the science part of it or the technical part of what we're trying to do and all of the requirements that come with the funding, is actually translated into something that's feasible.

Very similar responses were offered by some ACT for Youth interviewees when I asked them to reflect on what made good community-based educators (or, providers, in their case).

> I do think [PYD] will be [correlated with success]. And I think knowing the community really well is important. And so by extension knowing the young people, knowing what resources they have available to them, what they might already know about, what other kinds of education that might have gotten. But I think that really is coming out as what makes a provider a successful provider is really knowing the community very well and being respected in the community and being known for doing youth work are also positive things, but.

While my sample focused mainly on intermediary EBP workers, I did interview two practitioners at one ACT for Youth-supported provider, based in a multifaceted community development organization in rural upstate New York. Reflecting on indicators of success that go beyond the statistics, they mentioned instances when youth who had participated in their program spontaneously approached them to give some type of positive feedback about the program.

> A.: I had one at Subway the other day from like 6 years ago.
>
> B.: That came up to her, this is something like "I remember you doing this or that" and

> just hoping that obviously that made some sort of difference in that child's life.
>
> So I think that's what does it for me because we all live here. We're in the community. So I think that kind of stuff and then being called upon whether to come make a presentation to Rotary, to whatever, they know who we are, and that, and I think the schools that we do do business with or provide services, that's my administrative hat thinking, but we've created a reputation that we do what we say we're going to do; And when we're supposed to do it. They can count on us. If they decide you can't mention this word, that word is not mentioned. And so I think it's basically the good reputation that we've gathered through the years. Expertise. That we can be called upon.

For them, like some of the 4-H educators I quote in chapter five, expertise in non-formal education involves responsiveness to local needs and building up trusting relationships with the community. One such 4-H educator reflected what non-formal education meant to her by talking about her experiences growing up in a family of educators. She reflected on the fact that her family saw "the act of education as being a political act."

> While my mom teaches about substance abuse prevention, she's really teaching about life skills and about how to be a good citizen and about public good, but its framed within the guise of substance abuse prevention. So if someone came in and observed her, it would be really hard to figure out what subject she was teaching, because it's really about how you contribute to community. And so at the end of the day, that's really what it's about, it's about developing relationships and creating a whole family where things aren't whole, so that people can put their best foot forward, so we can help to cultivate productive citizens.

This statement echoes some other quotes I presented earlier about what 4-H is; it is about the life skills more than the project-specific skills. It's about relationships and continual growth. Another interviewee who works with Cooperative Extension at the county level reflected on the nature of the educational work this way:

> I think the key for us is that we're an educational organization, a non-formal educational organization and people learn through a whole host of ways. But the underlying premise of us is that people are strengthened. We're talking about strengthening youth, adults, communities, and families by learning. So we're not interested, the point is that and we have this fundamental belief that it's critical for people to continue to learn in order to continue to be strengthened. And so we're much more interested in the fact that people learn. We're less interested in what it is that they learn, because it's the learning, it's the fact that the people do it and that they continue to want to do is what matters, in a sense, for us. So if we're giving a fact sheet out, in a way, it's a fact sheet that can help us

> establish a relationship. Somebody wants some information about something? Great, we can give them that information. At our best, we're also thinking about how we use that transaction to establish or strengthen a relationship that leads ultimately to strengthening you, adults, families, and communities. When you do it that way, then, and you said relationships are key.

Still another county-based Extension professional, someone involved in 4-H shared those sentiments:

> It's the process not the product. It's about what the kids are going through, what the adults are going thorough as being part of a program like this. And about, yeah, learning a skill maybe or not learning a skill, but it's the process and I don't know if we're set up to be able to deal specifically with, if that should be our role, to deal specifically with issues.
>
> But I understand that some things have to be pretty prescribed I think because it's a subject matter that's very much, like you need to know. Like I taught Expanded Food and Nutrition programs for a long time and I know that nutrition programs in Extension are very prescribed. Like you have to do this, through this one hour lessons, six times, and there's a pre-survey and there's a post-survey of the change in behavior. And I understand that and I value that and if it's possible to do that they're lucky, because you know what? [laughs] They get the evidence right at the end. For us, it might take a kid being in 4-H for 10 years to see the difference you've made. You can make a difference I know in 6 hours, but we don't necessarily track changes in behavior like that. And I don't know if it's to the fault of 4-H that we don't do better tracking of, and I think probably, we've talked a lot about this, is really tapping into our alumni and doing more long term success stories and evidence of success.

Here, by way of talking about the nature of the educational work of 4-H, this interviewee is raising two additional important points: the evaluative challenge posed by non-formal educational efforts that effect slow, diffuse change; and the apparent differences in non-formal pedagogies (or praxeologies, or ontologies) that accompany different subject matters. Why is teaching nutrition apparently so categorically different than promoting life skills? What is it about different content areas that makes them more or less amenable to RCTs and to tightly-scripted curricula? I return to this difficult yet important question below.

Other perspectives on non-formal education, specifically in the context of Cooperative

Extension[25], corroborate the quotations above about the process orientation of the work; it involves processes of connecting people:

> I think part of it's sort of a self-gratifying feeling that you're bringing something to the local process. Helping with the process itself, connecting people. Value-added to a group that was trying to take constructive action but maybe didn't have the time, the resources, the skill sets to do that, and often it was as much on the process side as on the content side. Yeah I was generating a lot of content about [a particular topic] but often it was getting people connected together and working through planning sessions and whatnot.

This person recounted how he had first come to understand this role of Extension by working with a mentor—not an Extension professional, but rather an Assistant Planner for the small city in which the interviewee was working—who exemplified it well:

> He understood very clearly the importance of community education but also that lots of different groups had a stake in that, a role in that, so he didn't play the technical planner role that "we had the stuff." He didn't take the role of the technical expert. He was highly skilled, highly knowledgeable and brought that to the table but really expected me, in what he understood to be the role of extension, to tap into lots of different groups and parties who had both interest in and contributed to what turned out to be a fairly comprehensive educational series. He knew that if there was going to be positive change in that community, it took all those parties to be engaged in the process. So that was very influential. And it was actually different from the coaching that I got from here on campus, which was "we have all this great research on [this topic], lets figure out how to get it out in useful ways." But the project turned out to be much more of a community action project. That was an early story and that's what got me even interested in Extension work, because I had that lucky exchange.

This same individual echoes Scott Peters' (2007, inter alia) scholarship on the plurality of narratives of Extension, highlighting the need to find a balance between "tech-transfer, evidence-based programs" and "community engaged programming." He laments the mixed signals Extension is sending and worries that the necessary discussions about organizational philosophy are not occurring:

> I don't think we've gone through the organization philosophy arguments that allow us to

[25] While much of the data and interpretation is the section below pertain specifically to Cooperative Extension, I posit that the insights contained therein are applicable to ACT for Youth, the Kenyan project, and any other non-formal education initiatives where knowledge from the university community intersects and interacts with knowledge from other communities. Additional perspectives on campus-community relations in "engaged research" are offered by John A. Armstrong in his dissertation (in preparation, Field of Education, Cornell).

> speak with some kind of consensus about what is the nature of what are we trying to do; where is the balance we're looking for between tech-transfer, evidence-based programs and community engaged programming. It's ironic, what you're working on is precisely what I'm trying to get people to wrestle with because we're sending incredibly mixed signals.

Expounding on the community engaged model, he said:

> To me the community engagement kind of work is collaborative, either problem solving or acting on opportunities, so you're close enough connected with interests in a community so there's a respectful ability to identify "here's something we need to work on either because it's an issue or it's an opportunity for the community." And then the role of the academe, if you will, is basically resourcing that kind of local action; when there's a body of research to draw from and/or engaging academics in generating some of the needed knowledge or resources but is always a blending process: blending of perspectives, blending of knowledge, blending of resources. Collective action; very sort of close partnership stuff.

On some occasions, epistemology, pedagogy, and affect came together through people's statements in interviews. This interviewee, reflecting on the community engaged model of the work, describes how he perceives the messages to educators about EBPs and TR as disrespectful and destructive:

> I have some really strong feelings about how the posturing around Evidence-Based Programs and to a certain extent the translational research approach is devaluing community-based work… I see it happening in relationships with local educators and it comes back to what I perceive as a disrespectful discourse and whether its conscious or not, it's to me overt devaluing of non-formal educational practices adapting to specific contexts and I think it's having a real cost in terms of organizational cohesiveness, and almost is self-limiting the potential value there could be in embracing some more formal models. If you don't bring people along, they're not going to be along. And some of the language, some of the specific messages that have been communicated I think are pretty destructive, pretty darn destructive. And it makes me mad.

In similar fashion, a 4-H educator wondered why there was a need to change the Cooperative Extension model, and then reiterated the vision of Cooperative Extension as a grassroots conduit:

> If it's not broke why fix it? Not that that's holding us back, being more progressive. It's just that our philosophical way of doing what we do has worked for 100 years, plus, so, I don't always understand the need to make huge waves.
>
> I believe we're a grassroots organization that listens to the community, listens to the people and works with the people in our communities. We're funded by … the County has a commitment to us, Cornell has a commitment to us, but we have a lot of

> local donors and volunteers and families that are committed to the mission of what we do. But they're telling us what challenges they're faced with, our volunteers are running our programs. And so we're a very volunteer, community-driven organization. We solve problems together, as a community, so it becomes, like it's an issue of a community, but we solve it together, so people actually can see change happen long term. And so I think that's really the beauty of Extension is it belongs to the people of the community. A lot of it's paid by tax dollars, so that's the way it should be, in my opinion.

The perspective that Extension "belongs to the people" corroborates some other statements another interview involved in Cooperative Extension made while describing the essence of what this type of non-formal education is. He described Extension work as essentially and ideally consisting of five principles or processes: (1) people in the community identify the priorities that matter to them; (2) they then think in terms of how they want to address that issue—the solutions that they might come up with are theirs; (3) they put their own resources on the table; (4) if they bring in other resources from the outside, they are brought in on local people's terms; and (5) there is an institutional underpinning for the work that gets done.

On the other hand, the tech-transfer model of Extension, which is desired and expected by some constituents, involves a different type of relational exchange:

> The tech transfer mode is "we have stuff, let's go find stuff to fix. We have current research, let's find a place where it might apply and hopefully it will do good things." That's obviously the extreme—hopefully there's a front end of the process where some perspective on what could be useful kind of front-ends all of that but it's very much a "one way out" process. And again the way I said that it sounded pejorative, but that's not necessarily the case. Some of our constituents if you will, expect that: "what's the latest on cultivation practices, and it better be the most current" and all that stuff but it's a completely different relationship, completely different skill set, in my view, in terms of what the educator winds up doing. Presenting himself as a credible resource; having the ability to demonstrate local utility, local application but that whole process of surfacing needs and mutual interest, it's not on the docket for that, it's a different kind of an exchange, a very different kind of exchange.
>
> And I think that's the dominant mindset here. It's the dominant experience among a good share of organizational leaders, both in the colleges and in senior extension administration at this point. The faculty members who have long experience in conducting research and finding field applications, and again I think it's a very different process and skill set than the more community-oriented stuff.

This interviewee, and many others who may have said so in slightly less certain terms, equate the

current trend towards EBPs with the dominant tech-transfer model of non-formal Extension education:

> To me I have a hard time not seeing EBPs as tech-transfer. I understand the notion of field trialing and all that but even in medicine in the last few years there's a recognition that it's got to me more than one way out. Huey Chen's recent writing[26] on the need for the practitioner perspective and the validity of that whole take on implementing on whatever the cure is to me suggests that there's an evolution of that concept which I'm not sure how closely we're keeping up with where that's headed now.

There are differing perspectives on the nature of the relationship between the county-based Cooperative Extension offices and the campus-based Cooperative Extension administration. While this observation is specific to Cooperative Extension, it has potential implications for how all university-community engagement transpires. Some on-campus people with whom I spoke, when discussing the need to more firmly connect 4-H activities with research on campus, indicated that 4-H and other Extension programs that were not connected to research should be phased out. For instance, one person at the BCTR who is strongly in favor of EBPs stated that 4-H should be implementing EBPs. When I pointed out that, like Steve Hamilton wrote in his memos, EBPs simply don't exist for the type of education that 4-H provides, he responded:

> So one question is: should a university sponsor those activities? So should they be, I think one part of the debate that needs to take place is should programs for which there is no scientific evidence of their outcome and for which there's no relationship to any university-based research activity, should those over the course of years continue to be part of 4-H? So I think that really is a key question, and I think it's really possible that, I think our push is not to radically change it that way, but to encourage change in that direction, to a sloughing off of programs in 4-H that aren't related to anybody on campus' research, for which we don't have any evaluation data that they're doing any good, and people could be using their time differently; because they could actually be implementing evidence-based programs that do well.

This statement represents a completely different pedagogy—and a completely different reality—than many other interviewees involved in 4-H represent in their statements about the nature of

[26] See, for example, Chen (2010) and Chen and Garbe (2011).

their work. There are ontological differences on display, rooted in dramatically different understandings of the institutional structure of Cooperative Extension as an organization. For instance, juxtapose this next comment with the one above. This was a comment from the interviewee who outlined the five principles or processes, quoted above, of how Cooperative Extension works:

> So, the Cooperative Extensions system in New York, as I said, embodies [those five principles]. There's a law that basically says that every county in the state can have an association to work on whatever the county thinks is important to work on. Cornell likes to think that's it's only about those things that have connections to Cornell, but the law actually says… and whatever else the county wants to work on. But under two conditions: that the county must put resources on the table, and that there be an agreement with campus, with Cornell University, that's signed each year. Where it gets really interesting is that then the state says if this happens then the state will put in money as well.
>
> So in our case, in the association, we basically need to go back to the legislature every year and get resources, so we have to demonstrate to the county that we're doing work that matters to them. The county itself, the association is structured, it has a Board of Directors that's made up of people from the county and so if we're not, if people from the county want things to happen a certain way, they can effect that change through the legislature. And the staff and myself are all employees of the association, we're not employees of Cornell University or the state. So we're beholden to this county, to this association. It also then has ramifications for how we do our work, within the county.
>
> We do our best work, I think, when we essentially embody those 5 principles in the work that we do, so it's not us saying we're going to work on X or Y, it's people in the community saying X or Y is really important to us and we're going to work on it. So that's what drives me. It's really about making that system, understand it, be alive, live it, and be recognized for it. Not so much that it's recognized but be recognized for it because that's how we can get effective work done and build democracy. And for me those two things go hand in hand. I see this as an incredible tool for sort of true democracy.

These two people, who both work in the Cooperative Extension system, have fundamentally different views not just on the organizational philosophy but on the logistical and legal arrangements of the system as well.

One framework for trying to understand and perhaps reconcile these divergent views is the actual law itself. However, the materiality of laws accrues through their performance and enactment; one interviewee who has studied and reflected on the history of Cooperative

Extension recounted to me that, in CCE, the institutional arrangement between the county associations and the campus administration has gone through cycles over the years. At times, the administration exerts more top-down control, dictating the activities at the county level, while at other times, the central administration has been more laissez-faire, essentially deferring control to county leadership about what programs would be offered and what issues would be addressed. A document entitled "Cornell University's Responsibility in New York State to Provide Leadership and Supervision for Cornell Cooperative Extension Programming," drafted by Glenn Applebee, CCE Associate Director in December 2005, reviews some of the legal aspects of the county-campus relationship. According to the document, "The legal authority for Cornell University's role in Cooperative Extension program leadership and supervision comes from several acts of the United States Congress and the New York State Legislature: the Morrill Land-Grant Act of 1862; the Second Morrill Act, 1890; the Smith-Lever Act of 1914; County Law of New York, Section 224, as amended; the Civil Rights Legislation of 1964; and the Executive Law of New York, Section 296. The law with perhaps the most bearing on the disagreement represented by the contradictory quotations above is County Law of New York, Section 224. Yet that law apparently leaves room for interpretation regarding who should decide what programs are offered in a county. According to Section D of that law, "The general supervision of the cooperative Extension work in a county herein provided for shall be under the direction of Cornell University as agent for the state and Cornell University is hereby authorized to set standards for professional staff and to make rules and regulations for the entire organization and conduct of such work" (New York County Law 224, unpaginated). Elsewhere in the law, counties are given more power for cooperative management of the association: "provided that this money shall be expended under an agreement to be entered into between the county

association and Cornell University, as agent for the state, for the cooperative management of said work of the county Extension service association and the proper supervision of the professional staff employed therefor" (ibid.) It seems strangely inconclusive.

As I suggest earlier in this section, another framework for understanding these divergent views is to read the organization's history (Bailey, 1908, 1909, 1915, 1918; Bowman, 1934; Klein, 1930; McKimmon, 1945; Peters, 2006, 2007; Peters & Morgan, 2004; Smith, 1949; Smith & Wilson, 1930; Van Rensselaer, 1913; Van Rensselaer, Rose, Canon, & Alpern, 1919)[27]. One obvious source is Liberty Hyde Bailey, eminent horticulturalist, first Dean of the New York state college of Agriculture at Cornell, and one of the primary architects of the Cooperative Extension system. In what may now be considered a provocative statement—because it complicates the common notion of Extension as predominantly a purveyor of knowledge—yet one that is salient to this discussion of Extension's philosophy, he writes "Spirit counts for more than knowledge" (1909, p. 49). Elsewhere, discussing the founding philosophical vision of Extension, he writes, "It is very important in our great experiment in democracy that we do not lose sight of the first principle in democracy, which is to let the control of policies and affairs rest directly back on the people" (1915, p. 142). Bailey follows this statement with an invective against over-standardization of Extension work:

> I have apprehension of the tendency to make some of the agricultural work into "projects" at Washington and elsewhere. If we are not careful, we shall not only too much centralize the work, but we shall tie it up in perplexing red-tape, official obstacles, and bookkeeping. The merit of the projects themselves and the intentions of the officers concerned in them are not involved in what I say; I speak only of the tendency of all government to formality and to crystallization, to machine work and to armchair regulations; and even at the risk of a somewhat lower so-called "efficiency," I should prefer for such work as investigating and teaching in agriculture, a dispersion of the initiative and responsibility, letting the co-ordination and standardizing arise very much from conference and very little from arbitrary regulation. (ibid., p. 143)

[27] Additional perspectives on the historical role of Cooperative Extension as a site of deliberative democratic action are offered by Timothy J. Shaffer in his dissertation (in preparation, Field of Education, Cornell).

Interestingly, in an instance of intertextuality, an interviewee in CCE has been reading Liberty Hyde Bailey and other historical accounts of Extension:

> I think the vision in what I understand from reading the history, reading some of Liberty Hyde Bailey's early writings is about, were really about developing the farmer and not the farm. So how do you do that and what does that mean. It means that going through experiences you're going to develop a certain aptitude, a certain softness towards learning, a certain readiness to be in the right place at the right time to apply knowledge. And you can't do that really without, I don't know what the research says about this, but my experience says that you can't be ready to jump in to just the right thing until you're softened around the edges to being ready to learn. So in some cases I think of that as peripheral learning.

This interviewee mentions not knowing what research says, a theme that emerged in other interviews as well; I touch on this theme in the section on what research is below. The notion of developing the person rather than the product was also recapitulated in a number of interviews. For instance, drawing a stark contrast to research on positivist "hard sciences," such as animal genomics or fertilizer application guidelines, one 4-H educator positioned youth development research as fundamentally different and echoed Bailey's distinction about the focus and purpose of Extension work:

> Research on youth development and how to grow good kids is very different, because yes, it's one thing to know about genotyping dairy cattle, and kids who are doing dairy bowl can learn about that. But what we are doing with the kids—I love that they're learning all this stuff about dairy—great stuff. I do not believe a single one of them will become dairy farmers. They will go in to other professions. So I'm not growing dairy farmers. I'm not making these young prospective dairy farmers more productive. I'm growing good kids. The vehicle I use is all of that research. But where is the research on youth development principles and how they apply? I think there's a lot more than there ever has been, and it's good, but we all then have to figure out how to use that in our programs. It's not as direct as fertilizer application rates.

Returning to the historical accounts of what non-formal Extension education is, another important yet often overlooked leader and chronicler of Extension is Ruby Green Smith. Smith was very clear that Extension was to be a two-way conduit, where information from the university flowed out and information from the people flowed in, thus enhancing the quality of

the university. What's more, she writes that to realize Extension's "ultimate purpose," we must recognize "the human relationships that contribute to what the ancient Greeks called 'the good life'" and believe "that it is not enough for people to have food, shelter, and clothing—that they aspire also to find appreciation, respect for individuality and human dignity, affection, ideals and opportunities. These are the satisfactions that belong to democratic living" (1949, p. 544). Where is the EBP for Extension that has shown statistically significant causal evidence of positive "good life" democratic living outcomes, based on a meta-synthesis of two or more sufficiently high-quality experimental or quasi-experimental designed studies that have been published in peer-reviewed journals?

Programs and/or practices. Reflecting on the absurdity of that rhetorical question—and on Bailey's warning that non-formal Extension work not become crystallized and overly formalized, like "machine work"—I return to a discussion presented briefly above regarding the distinction between conceiving of the work of education in terms of *practices* or *programs*. As I quoted previously from one of Hamilton's memos to 4-H educators:

> The line between programs and practices is not fixed, but it is worth noting that as the idea of an evidence base made its way into youth development a shift occurred from practice to programs. This surely reflects the centrality of programs for youth development organizations and professionals. Evidence-based practices are more unitary, less complex than programs. Giving participants a "voice" in choosing and running programs is an evidence-based practice. Life Skills Training (developed by Weill Cornell Professor Gil Botvin) is an evidence-based program. A key challenge in implementing evidence-based programs is always that evidence demonstrating the effectiveness of the program as a whole provides no guidance about what parts of the program are most efficacious. Therefore it is impossible to know what the results will be of adaptation, which is far more common than strict adoption. That is why there is such stress on implementing evidence-based programs with fidelity.

In a number of interviews, people representing all three programmatic contexts discussed the distinction between practices and programs. For instance, a person involved with ACT for Youth echoed Hamilton's ruminations on the difference that arise when the "evidence-based" model

moves (or, is "borrowed") from medicine to social endeavors:

> The CAPP project is taking EBPs for teen pregnancy prevention to scale in 58 counties, and that all by itself is a challenge. The research on taking things to scale is somewhat limited [laughs] or non-existent. Most of the research has been on medical practices. And EBPs, this whole discussion is a derivative from medical scenarios, which is one reason CDC is involved in it, public health. And taking a curriculum to scale is a very different thing from taking a practice to scale, if you know what I mean. Yeah. Most of the teen pregnancy prevention programs, evidence-based programs, were tested in inner cities, in community-based settings, with pretty good incentives for the kids to participate, over a fairly limited duration of time. So they were pretty tightly controlled and laboratory and they worked just fine! With 40 kids, and became evidence-based programs. Taking them out of that tightly-controlled situation and also taking them into schools, which a lot of the DOH grantees are doing, changes things immensely. You can't get kids for 3 to 4 hours at a shot in school. And they are somewhat loath to give incentives.

The vast differences between the context of an EBP's original testing and the contexts of its eventual implementation—such as the fact that youth are paid to participate in the original trials—raises a number of issues that are salient to the discussion of adaptation of EBPs, to which I return below. Returning to the more general distinction between programs and practices, an administrator at the NYSDOH said:

> I know it's easier to take a boxed curriculum, but I think maybe making sure that those elements identified as effective [such as Kirby's 17 Characteristics of Effective Curriculum-Based Programs[28]] were present in interventions might take more work but at the end of the day probably would be more effective. Some of them were more practical, almost intuitive.

One ACT for Youth staff person expressed her support for the "evidence-based" movement, yet also raised the issue that funding agencies need to catch up and realize that evidence-based practice is more promising than evidence-based programs:

> I think it's a good thing to move towards "let's use these evidence-based programs." There's evidence suggesting that this is going to lead to what we want, but I think people have to be flexible in knowing that that's not where it ends. Exact replication of this is not necessarily going to lead to the exact same outcome, and even if it does that doesn't necessarily mean that's where we stop. So we were just talking about this yesterday in the car ride, moving from evidence-based programs to evidence-based practice makes a lot of

[28] See Kirby, Laris, & Rolleri, (2005). As mentioned previously, this work was influential both in the creation of the MCMR program in Kenya and that project's efforts to position their work as "evidence-based."

> sense and I feel like the funding, the political pressures and those kinds of things need to kind of catch up to that mindset, but I think that might take a long time [laughs].

Reflecting on the importance of how tightly a program is framed, someone in CCE expressed concerns that PROSPER is too tightly defined to have a broad fit with what 4-H is:

> And then in terms of specifically the 4-H context, one of the things that's sort of held up is this PROSPER project that's out of Ohio State. To me it's, I'm sure it's a good program but its tightly focused on some specific outcomes, some specific instructional models and the challenge that I have with something like that is how do you grow it out big enough to have a significant impact on youth across a state or across even across a community so it still has those constraints in terms of formulation and appropriate context for delivery and I do understand as you get more and more communities it can expand the model somewhat but they're sticking with the program so to speak with regards to the overall formulation of the project so. To me, we have some obligation to find broad approaches that are inclusive and far-reaching and I don't know how to do that with that tightly defined a programming model.

Another interviewee from CCE expressed similar concerns:

> My understanding of evidence-based programs is that it's based on a program start to finish that if followed by protocol will produce the specific results. My concern is that different practitioners, given different skills and talents and needs in the community, will take that evidence-based program and probably present it slightly different, which may skew the results. And all of that, taken into context with if you do this, if you do just the evidence-based programs, if you slim down or tease out only the evidence-based programs so that that's what we become, my fear is that we lose that being the conduit of information for Cornell, being from Cornell to the people and from the people to Cornell.

That is, the excessively tight focus of EBPs, which in practice tend to be presented in adaptive ways that naturally deviate from the prescribed program, impede the responsiveness to local needs that characterizes the two-way conduit model of Extension. Elaborating, and demonstrating an effort to take a pluralist, balanced view of the question, this person said:

> I guess I want to make sure that I say that as much as I lack confidence in the fact that evidence-based programs are the way to go, I don't think that that means that you don't look for evidence based programs, I just think that should be *part* of the portfolio and not *the* portfolio. I think in order to remain flexible to local needs and flexible to federal funds and flexible to department interest, you have to keep an open mind and be agile. I think we need to be training our staff internally and make Extension administration be cognizant of the fact that if we remain fairly agile and not putting, just like investment funding, so if you don't put all your eggs in one basket, then you're not as likely to fail. So the concern I have with evidence-based programs is that it's putting too many eggs, at

> least from what I've heard, as it's been talked about, too many eggs in one basket. I do think we should be putting some eggs in the evidence-based practice basket, though.
>
> [With an excessive focus on EBPs], I think we're going to be, for so many reasons setting ourselves up for failure if we say "Here's what we offer." We're limiting our audiences; we're limiting who can teach things, we're limiting who's going to be interested. We're limiting our connection to departments and faculty, because there are just a few evidence-based programs.
>
> [I ask: How would you feel if you were a 4-H educator whose job was implementing EBPs.]
>
> It might be easier for me. I would know exactly what to do. But it's not really the leadership capacity that I think extension is supposed to have, and reflecting the needs of the community, bringing those needs to, finding somebody on campus or that has a research based component, filtering up what the needs of the community are.
>
> So evidence-based programs are very corporate, it's a very top down model, so if we want to be a corporate not-for-profit, then maybe that's the ways to go, but we have not been that way historically and we have been successful and… in being, just open to meeting the needs of the community.

This person's hypothetical response to my question of what it would be like to be an educator implementing EBPs connects to other data I collected on this very topic. For instance, one project director at the BCTR—whose work is "translational" yet does not involve EBPs—habitually sat in on a seminar offered by Center Director John Eckenrode. In one session, two representatives from ACT for Youth were guest presenters and facilitators of the discussion. They talked about the CAPP initiative and the difficulties involved in supporting and evaluating EBP implementation fidelity. Even though they are close colleagues, this other project director apparently did not realize how restrictive the EBP implementation regime actually was in the CAPP program. As a former sexual health educator herself, her response to learning about this state of affairs was marked with clear amazement and dismay; she said that she couldn't imagine what it would be like to educate, when the only responsibility and agency left to the educator was to literally read from a prepared script like a robot. I also spoke with some educators who are actually implementing EBPs as part of CAPP. While they remain proud of their homegrown

curricula that they are no longer funded to implement, they had positive comments about implementing an EBP: "I mean, we did have to change our mindset and we liked our curriculum that we developed [laughs] but had to work on or *find* an evidence-based curriculum that was appropriate for our community and needs." With the help of an ACT for Youth staff person, they selected two EBPs to implement: Making Proud Choices, and Draw the Line, Respect the Line. Making Proud Choices (MPC), which is the primary EBP they implement, actually didn't (or doesn't) fit their community, requiring adaptations that—as the educators are quick to point out—were approved by Cornell (i.e., ACT for Youth). I return to the crucial issue of adaptation below. But after changing their mindset, the educators saw the value in offering an EBP:

> I like the fact there is the background of: this is an evidence-based curriculum, proven somewhere that it works. So I guess it's something that I feel I can hang my hat on, so to speak. Some credibility, I mean [our staff contact at ACT for Youth] has done real well as far as matching State Department of Education guidelines and showing the comparison as far as they do meet the standards that they're supposed to be teaching. So I guess that's the confidence. Have I seen the results? I guess I haven't seen results of our community having this curriculum, which we don't because of statistics, the Department of Health statistics. Teen pregnancy for example, they're at least three years behind. So I am getting stats from prior to CAPP, so that's the latest stats I have.
>
> So has this helped in any way, I don't know yet. I can't, not that I couldn't prove that our work is instrumental in changing these, I would like to think that that would be the case, but I can't see that yet. So, I guess by using these curricula if nothing else it's just the confidence of having something that has been tested, tried, and true, I guess; compared to the old one which didn't change over the years, although our rates have progressively declined. Which, one of our stats was even we initially had the APPS grant back in '87, [our county] was ranked number one for teen pregnancy outside of New York City. So I think any work would have been helpful. But I'd like to think that our program, regardless of who is funding it, helped to some degree to educate the community kids.

That person's colleague, who is more directly involved in actually implementing the EBP out in the community (i.e., in schools, etc.), described the experience this way:

> Yeah, well I, yeah, I like the evidence-based. I feel really confident presenting something that has the name evidence attached to it because I know that it's worked before so hopefully it's going to work again. There's proof behind it. I know that the teachers are sitting there thinking, "OK this is the same kind of thing that I present in my classroom so I know that this is going to work." I know for a fact that I get different reactions from the

> kids in the classroom presenting something like an evidence-based curriculum then something that we've developed on our own. I feel, definitely feel more confident presenting something that's already written out for me than I do with something that I've written out on my own. I feel more confident doing that. I just do. I definitely, since we started this curriculum, feel more confident as a presenter. So, there's that.

So whereas some educators are appalled at the erosion of educator agency brought about by tightly controlled implementation of EBPs, others find that the "evidence-based," already written out nature of the program gives them greater confidence as an educator.

However, true to the concerns that a handful of CCE and 4-H interviewees express above, the tightly controlled requirements of EBP implementation render it difficult for the educators to gain access to the populations of youth they hope to reach:

> I was just going to say with our old curriculum the teachers could call us up in the health classes and be like, "Could you just come in for a day and give a presentation on STDs?" and they had the control; they just wanted you in for one class. But with this new curriculum, they could call us, for example a health teacher tried to say "I want you to come in but I only want you for module 1, 4, 5 and 8," [laughs] and we're like, "No, we have to do all of it," so they have no control. If they have something, we have to do 1 – 8 and we have to do them all, so we have to do 8 sessions; they can't just pick and choose. So we're occupying however many classes which can be up to a week and a half of their time, depending on how they're schedule is, so that's another thing that could really hinder us being in the schools. Yes, [if they can't do all eight] then they wouldn't have us in. they say they just don't have the time for us.

Another set of reflections on the practical limitations inherent in EBPs is offered by an ACT for Youth staff person. She sees evidence-based practices as more appropriate than EBPs:

> I think I would make a distinction. "Evidence-based" can be used; evidence-based practice is probably better than evidence-based programs. Because what happened in the sexual health field, they have these curricula that are very scripted, and they outdate themselves very quickly. Especially youth culture, it changes all the time, and if you use teaching strategies like videos and video processing and scenarios they always outdate themselves very quickly. So having a program that requires that you do things, because they don't know exactly what works, so they have various things in there, they have different teaching strategies; they have different theories at the bottom of this. They don't know exactly, section 2 is really important, section 4 is really important, so they're saying the whole thing has to be done as is. And that's very difficult to so because of the outdating and stuff.
>
> Now if you have evidence based practice, you don't have that strict limiting, then you put more, I think the way you have to go then and what happened in mental health

> and in health and in substance abuse, you go for training the practitioner more. You do much more training that they understand the principles. They understand the philosophy, the theory. They know the strategies. So a lot of effort goes into that. And then some of the more advanced ones do look at the environment and they create also system change that goes with that. But then it makes it very expensive. So like … the bullying thing, very expensive to implement. It's a system wide approach with a lot of training of implementers and in the. David Olds' thing is very expensive[29]. And there are others like multi-systemic family therapy. All the Blueprints—we went to the Blueprints Conference[30]—if you go to that, a lot of money is in the preparing the folks who are doing the work, while we don't have that because we have a scripted curriculum. It's not as intense. But the practice thing has a better chance because you can adapt more and you can connect with reality more if you want, but it's more expensive.

Another ACT for Youth staff person, who has also worked on another BCTR project focused on a topic for which no EBPs exist, expressed similar sentiments. In doing so, she also again raises the question (previously raised by a 4-H interviewee who suggested that differences in content matter between 4-H youth development and nutrition education explain why the latter involves more EBP-like work while the prior does not) of whether certain subject matters are somehow more amenable to EBPs. Reflecting on "the research-practice gap," she begins by intimating that EBP implementers may not need any more research (unless they are intrinsically motivated to seek out practice-centered research), since the program is already prescribed:

> And especially with something so prescribed as an EBP where in theory the research is already integrated, there doesn't seem to be a huge need for it unless you're intrinsically driven to have more information and to improve practice. I think using data is another piece of that. Which is a big piece of the reason we want to continue feeding them information back, reflecting on this is what you're doing this is what the initiative is doing. I think that maybe has they can see themselves in that so I think that actually might have more of an impact on their practice.
>
> But, I think it's a good question, I can't help but contrast ACT and the self-injury project [the other BCTR project this person has worked on]. Whereas ACT, you think about the EBPs there's way, way, way, more research and way more syntheses of that research available; Whereas the self-injury project, when we started there was like

[29] David Olds, who studied under Urie Bronfenbrenner at Cornell and who is a peer of many in the BCTR, has developed a pioneering "evidence-based community health program" involving nurse-family partnerships and home-visitation for vulnerable first-time mothers (http://www.nursefamilypartnership.org/). ACT for Youth staff often refer to this model, emphasizing the benefits of its holistic approach to community change.

[30] The goal of the conference (http://www.blueprintsconference.com/) is "to disseminate science-based information on programs that have the highest standards for promoting education, behavior, emotional well-being, physical health and positive relationships."

> nothing. There was no research on this let alone that translated into anything for people to use.

Those comments prompted me to ask if a CAPP-like initiative for self-injury was feasible or desirable. The interviewee responded:

> Oh yeah, it wouldn't be, it would be kind of like the PYD version of what ACT is doing in some ways, because self-injury isn't just about self-injury, it's about coping and inability to cope. So really the prevention is teaching, developing, practicing positive healthy coping strategies. Recognizing distress in yourself and in friends. Things like that that you don't even ever have to talk about self-injury for it to be self-injury prevention. So I would absolutely love stuff like that to be more widely implemented. …
>
> I think that's part of the reason, that's kind of the struggle with prevention in general. But yeah we saw that played out with PYD and ACT, you can have these research connections that taking this approach will help prevent X, Y, and Z but it's never as clear as "Well we treated this and then it went away." "Look we did this program and nothing happened; yay, success." I mean it's a really hard case to make. And you add, of course, so many other factors at play, beyond how they spend their afterschool hours or something along those lines. So you can't say it's directly linked to it.

I consider this person's statement that many factors are at play in a young person's life—beyond whatever EBP she or he is involved in—in the next section, which is focused on the plurality of theories of human action and behavior change contained within discussions of EBPs and evidence-based practices. For the final word in this section on the differences between evidence-based practices and evidence-based programs, I turn to the representative of a funding body that has previously invested in EBPs in non-formal youth education, the William T. Grant Foundation. In their 2009 annual report, the foundation's President offers his perspectives, informed by evidence garnered from the foundation's grantees, on the importance of the program/practice distinction. Because it is so salient to this study, I quote from his essay here at length:

> The William T. Grant Foundation supports high-quality empirical research in the social and behavioral sciences, meant to improve the well-being of young people. Our current approach focuses on understanding how schools, youth programs, households,

neighborhoods, and other settings affect youth and how policies or other external forces affect such settings. We believe that research evidence should be useful to policymakers and practitioners, and we support the goal of evidence-based policy and practice. However, we have come to question the predominant approach to achieving that goal. That approach assumes that widespread improvement in child and youth outcomes will occur through "scaling-up" brand-name programs, models, and organizations. We and many other foundations and public agencies have followed this strategy—and its track record is modest at best.

The inability to create positive change for large numbers of young people has caused us to consider what the scale-up approach may be missing. In this essay, I argue that the main issue is the lack of solid guidance on the practices that front-line practitioners should use. This information is needed to improve our ability to scaleup programs in a way that maintains their effectiveness and to sort through various claims about "model" programs and practitioner-generated lists of "best practices." Too much research and development work is focused on the effects created by schools, youth organizations, and programmatic interventions and too little examines the practices that lead to those effects. In today's vernacular, we need more research attention paid to *why* things work as the missing ingredient in the "what works" agenda. …

Historically, we, along with our colleagues, have pursued scale-up strategies as we tried to improve outcomes for vulnerable children, youth, and families. One version of scale-up assumes that researchers will develop and incubate new strategies or programs, test those programs under limited circumstances, and then work with policymakers and practitioners to implement and test them at scale. This approach is rooted in the tradition of phased clinical trials in medicine, and it is favored by NIH and IES. Our funding for David Olds's Nurse Family Partnership program is a good example of our support of this strategy.

A closely related strategy, perhaps best exemplified currently by the Edna McConnell Clark Foundation, is to search for promising organizations, encourage strong evaluations of organizational impact, and then expand the organizations that have promising evaluation results. …

The two scale-up approaches share a commitment to strong research and evaluation as the basis for assessing promise. This work has led to the identification of model programs and organizations that are effective at small scale, and cataloged on websites created and maintained by public agencies and some nonprofit organizations. The most ambitious example of such a site, and perhaps the best, is the What Works Clearinghouse sponsored by the federal Department of Education. Other prominent examples include the Coalition for Evidence-Based Policy's Social Programs That Work, Johns Hopkins University's Best Evidence Encyclopedia, and the University of Colorado's Blueprints for Violence Prevention.

Despite the research community's ability to identify promising programs, our Foundation has become increasingly convinced that it is not possible to take such programs to scale in a way that maintains their effectiveness. A recent report from the National Academies of Science underscores this concern. The 2009 report *Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities* concludes that substantial progress had been made in identifying efficacious interventions during the past 15 years, but that, "thus far, however, preventive

> interventions have not been widely implemented in schools and communities and have done little to reduce behavioral health problems in American communities" (pg. 297). While calling for more research on how to "implement and disseminate" interventions, the report also quotes a paper by Dean Fixson [sic] and colleagues—funded by this Foundation—which synthesized what is known about the problems of implementation and replication of model programs[31]. Fixson and colleagues argue that "successful implementation is synonymous with coordinated change of system, organization, program, and practice levels," and note that such coordination rarely exists. …
>
> Proponents of scale-up strategies have also been interested in practices, as they have tried to specify the design elements or critical features of efficacious programs and organizations. The idea is that any model program is an attempt to bundle together a set of resources (e.g., curricula, staff) and practices aligned around a common goal. To support diffusion with enough fidelity to sustain positive results, most who lead or develop promising programs assume that they need to specify the key drivers of program effects. Despite this, developers of model programs too often underspecify what is required of line staff. They are usually strong on their presumptions about critical management and structural elements, such as the ratio of adults to youth, but weaker on what adults and youth should do together. We believe this limits the appeal of such innovations for practitioners and constrains their ability to replicate program effectiveness. Furthermore, the scale-up and best-practice traditions are both weak on research support for the practices presumed to be key, critical, or best. …
>
> In this essay, I have argued that achieving widespread improvement in youth outcomes demands better information on the practices that occur in youth settings, the forces that shape these practices, and which practices cause better youth outcomes. This information is needed to improve our ability to scale-up programs in a way that maintains their effectiveness and to sort through the various claims about "best practices." Although we at the Foundation believe that focusing on practices and strategies is more productive than working on model programs, we do not assume that there is some discrete set of best practices that works in all situations. To use an analogy, there are many ways to create and implement a winning game plan in every sport. The key may be that the plan is understood by all the players, fits together as a coherent system, has readily available data to guide adjustments in tactics, fits the talents of the players, and so on. (Granger, 2010, pp. 5-11)

This sports metaphor is notably different in meaning than the football metaphor of scientific knowledge that Pillemer proposes in the Evidence-Based Living blog.

Multiple praxeologies of behavior change. One interpretation of Granger's essay—and of the broader divergent discussion about what non-formal education *is*—is that there exists quite a bit of disagreement between people's implicit or explicit theories of how people change. The data presented above support Biesta's claims that evidence-based models assume a mechanistic

[31] Fixsen, Naoom, Blase, Friedman, & Wallace (2005).

ontology and that those models' tacit theories of human action lack nuance. The W. T. Grant Foundation, and others like them, have realized that the dominant models for creating and scaling up "programs" does not lead to the individual-level and societal-level changes that are intended. People espousing perspectives other than strongly EBP-centric ones have begun admitting that life is more complicated, complex, and dynamic. A number of interviewees in this study, whether they were involved in implementing EBPs or in promoting PYD practices, reflect this admission through their modesty about their programs' causes. Rather than espousing the theoretical logic inherent in the EBP implementation pedagogy-praxeology, in which a program "that works" causes the desired outcomes that it has been scientifically proven to cause, they discuss their programs as one set of dynamic factors in a young person's even more dynamic life.

One 4-H educator posed this idea in terms of what she perceives as in increasingly narrow focus on project skills that accompanies the push to align all 4-H activities with the three Mission Mandates. She goes on to refer to the "social ecological model" of youth development, pioneered by Urie Bronfenbrenner:

> It seems like it's with the Mission Mandates, it's getting to be very specific about subject matter or about changing a skill, or getting kids more interested in very, very specific things. And the outcomes that the feds give to us are a little I think we'd have to do like [laughs] research projects just to find out if we're doing what they want us to do. And I think that probably 4-H has a place in being able to collect a lot of that information, but also I know that they have to obviously have outcomes that meet the needs of a lot of different types of extension systems. And there are a lot of southern states where a majority of the programs are in school systems so it's easier for them to get the answers to a lot of this because they have a stronger connection with the schools. I would like to see us here focus on a few of those outcomes very specifically.
>
> But you have to be very intentional about figuring out what difference our programs really are making. And what I think is hard, and maybe it's just we don't always want to take credit for the work that we do, but is it, are kids going into science careers or are kids going in to college and entering like a science field because of 4-H? So that's where I feel like some of the research, it would be helpful to have a better way to find out as a result of 4-H … And I don't necessarily know that that's possible for 4-H to take all the credit when you see and outcome that's like how many kids in our program have entered college science majors. And it's like that may be part of what we've given

> them in 4-H bit also it might be there science teacher … but for me that's the hardest part is having those kind of concrete outcomes when I feel like what we do should be more like the social ecological model of we're not going to take all the credit for this. We're a part of a community that helps develop kids. And to build that community to help the kids, we need to have relationships with the school, we need to have relationships with the parents we need the positive adult in the kids' lives.

In interviews with people involved in supporting the implementation of EBPs, such as the person related to the Kenyan project who is quoted below, I saw very similar desires to make modest, rather than strong (yet narrow) claims about changes attributed to the program.

> Because it's all about if we're going to employ our great positivist model, then how do we account for the real world lives of our children and how do we really begin to attribute changes in their behavior to our program. Certainty we do the best we can. We try to employ as many methods as possible; putting forth as much "evidence," "credible evidence," as we can. But the reality is that these youth, yeah they spend about half of their day in school, but they go home and they're around their peers and they're in their communities and all of the subjective or referent norms that play a role in behavior change really are alive and well, so it's their peers, it's their families, it's their parents it's perhaps what they see on TV or read in the newspaper.

Many proponents of randomized trials would respond to this quotation by saying that the powerful logic of that research design is that the randomization of participants into "treatment" and "control" groups isolates program effects from other countervailing and confounding factors. Regardless, this educator (who is also a researcher and evaluator), based on her understanding of the context in question, maintains a more nuanced, less certain perspective on the mechanistic aspects of behavior change, in spite of "the great positivist model." Another person involved in supporting EBP implementation, in this case at ACT for Youth, said:

> I have a hard time telling anybody, "This is what we know, this is an absolute fact." I feel like there's always room for grey, and having that step back from providing direct services, that would be kind of telling people "Well this is what we know and this is what you should do."

Yet another person affiliated with ACT for Youth posed it this way:

> The problem, I think, is when you think about social behavior or community based behavior there are so many factors that influence that. And when you take a rigorous research method, you're trying to eliminate all those factors and you focus on the one or

> two. And so that's not that realistic. There's no community, there's no social behavior that's just influenced by one thing. So it doesn't really, it's not that helpful if I know that having a role model is really important for pregnancy prevention, or having a goal will help me postpone pregnancy. I mean, it can be helpful but there are so many other factors that come in like the boyfriend at the moment, the availability at school of [contraception], the trajectory of stereotypes that get in the way. And research cannot accommodate all that. It's always piecemeal. And so that makes it difficult. So I think sometimes you really can pick up some really effective helpful strategies that are coming out of the practice and that have results. But they are too complex. Or maybe the right questions were not even asked yet.

One interviewee mentions a complex comprehensive adolescent pregnancy prevention program that attempts to account for the rest of the youths' lives outside of a 6 or 8 session program:

> The best programs, they're really complex programs, but they're extremely expensive, like Carrera does in his program.[32] And it takes several years and its multi-component but it's hard to replicate. It's a youth development program. It's really about, so sex education is a piece of it but it does tutoring and he promised them they can go to college if they finish high school, he has huge incentives. He dos social entrepreneur stuff, he does recreation expression, health care for the family.

While firm proponents of RCTs and EBPs lack faith in any other approach to programming, most people I spoke to lack faith in RCTs and EBPs as producers and containers of certain knowledge.

An administrator at the NYSDOH also reflected on the sometimes problematic theories of behavior change that undergird a lot of EBP work:

> I have a healthy skepticism about behavior change to begin with. And behavior change among young people and the actual ultimate effectiveness of a curriculum that's going to change behaviors, such basic behavior as sexual activity. I know there are examples of smoking cessation and maybe less alcohol use, but I really have an issue, but I think you experience it with obesity and some of the basic human activities that are not really always conducive to especially long term behavior change based on some intervention provided for four weeks or six weeks. I know it's trying to, I think the impetus, especially at the federal level is they wanted to be able to document to Congress that the money that they were spending on this wasn't just a total waste, so they, in my cynical mind, they created a whole industry of DEBIs that comes with the training and buying the curriculum, people are experts, and it's kind of the creation of this whole industry around,

[32] The Carrera Adolescent Pregnancy Prevention Program (http://www.childrensaidsociety.org/carrera-pregnancy-prevention), which has received a "top-tier" evidence score from the CEBP by showing proof of effectiveness via a large, multi-site randomized controlled trial.

this.

> I know the intention is good, I just think the execution is shoddy and the theory behind it is tenuous at best about that whole, providing education is going to lead to behavior change, especially long term behavior change. I think studies show that maybe at best, studies that exist, that six months of behavior change, sometimes that's communicated as far as intent to behave, a certain behavior, not actual behavior. I'm not up on a lot of the recent literature but I know that when I was looking at this a few years ago, there was not a lot of documentation that any of these things lead to long term behavior change. Studies were: "I intend to use a condom next time I have sex," so I guess that's effectiveness compared to nothing, so I just think the whole theory concept is built on very tenuous ground.

This quotation raises a couple of other interesting points. One is regarding the "whole industry of DEBIs that comes with the training and buying the curriculum" where certain "people are experts." This is reminiscent of Michael Scriven's critique of the "esoteric cabal" that the "gold standard" movement essentially establishes. I return to some aspects of the industry of EBPs in the section on adaptations below. Another point is about how you can know that sexual behavior change education actually effects any change. This point came up during the work planning meeting of the Kenyan project in Nairobi. The project team discussed a meeting in which the behavior change model was under fire; someone pointed out jokingly that unless you follow the young person into the bedroom and watch him put on a condom, you can't actually know if the program worked. The uncertainty around the efficacy of behavioral interventions is reflected, according to the Kenyan project's CDC administrator, in the new PEPFAR edition's much stronger emphasis on biomedical interventions. That same NYSDOH administrator continued his analysis of these issues this way:

> I'm more of an advocate—and it's harder to do—of changing the environment. The things that have resulted in behavior change have been more environment change; where the choices are limited. Or where the environment is just by nature healthier and some of the less healthy choices are less available. And there are examples of public health stuff that are more mechanical in nature like contraception, is a different, you still have to have people want to take contraception but once they do, there's definitely effective methodologies that reduce pregnancy. There are laws around seatbelts and helmets where it's environmental and generational where those things just become part of the environment and they have public health impacts. It's like tobacco where the taxes get

> higher and higher and it gets more costly for a young person to smoke and it reduced young people smoking so when it's a tangible mechanical intervention, as opposed to something that's purely behavioral. I think that's a big gap in other public health successes versus again changing a young person's decision making around sex. You know, even just getting them to use condoms is great but in the scheme of things it's still pretty ineffective as far as preventing pregnancy; it might be effective in preventing an STD or HIV, but I just think that these behavioral interventions are still out there on an island as far as any other support.
>
> And the whole concept of dong more community development or youth development and changing the environment that way, it's a hard thing for some people to really, to create that, to implemented it to really have an impact on young people. I'm very cynical, I just really think that, again, this is, something's better than nothing. We have to prove that the money, that we can show, and we're guilty of this here, if we can show that X number of funded providers are using this specific intervention, and it's been researched by somebody somewhere, in some really controlled environment to be effective for treatments where there's an intention to use condoms, then we've dispensed our duty and everything's fine; and I think that's a really hiding your head in the sand kind of thing. And I really object to that, where HIV DEBIs, because that was very much, even though it wasn't stated the way I stated that, I think it was the subtext of people providing this interventions to high risk people then everything was fine. And that's really not true.

As I mention above, I would like to conclude this section on "What is education?" by representing two success stories I heard in the course of this study. To me, they are grounding reminders—amidst all the politics of knowledge and evidence—of what good education can really do. One story came from a 4-H educator:

> One year I had a mom call me, and she asked if she could enroll her daughter in the program, and her daughter couldn't hear. Her daughter was deaf, and would she be able to participate. Holy Crow. So much of what we do is audible, in a program like that. And I'm thinking about safety with animals and if we don't make that clear, and well, she said she would come as the interpreter and she would sign to her daughter. OK, so I got beyond my initial "Oh my Gosh how can we make this happen?" to "Alright, we are going to make this happen, but we're going to make it way more meaningful then 'your mom is going to interpret everything.'" Because so much about even Critter Camp, that it's only a 24 hour program, so much about what happens there is building this sense of inclusion and belonging. And if I have one student who everything is given to her through interpretation by her mother and all of the other kids are being mentored by teenagers, if that doesn't exclude her from the group, it's a very visible, in your face reality that I didn't want to see happen.
>
> So I put a lot of thought into "OK how can we make this happen?" So at the time, one of my dairy mentors, she was a middle-teenage girl, extremely dedicated, devoted young lady, who had a younger brother who had Down syndrome and at the time, he was probably about 2 years old, the person that was working with Peter and the family was

> beginning to teach the family basic sign language as a way to communicate with Peter. And I though OK, Carrie already probably knows simple things like I'm thirsty, I'm hungry; she's got to know the basics. So I approached Carry and I asked her if this was something that would interest her. She jumped on it, she said, yeah, she would be very interested. So not only did Carrie just say "Yeah I know the basics so I'm willing to work with her," she sought out community classes to increase her own level of sign language.
>
> One of the teachers of Carrie for sign language said "OK this is a very specific program that she's doing," and I said yes, and she said "It's all about diary?" so she said "There's got to be some very specific words that Carrie must need to know" [laughs] "Can you give me a vocabulary list that we can work with?" See my goosebumps? Carrie was so extremely well-prepared. She worked one-on-one with the little girl, worked through every worksheet that we did, so then my thought process went, "OK, now we get to the show." All of the kids have to lead their animal around the ring. Dairy's fine because it's a non-verbal show experience; you don't have to say anything as you're walking your cow around the ring. However, in a true show experience, the judge lines you up and he asks each individual a couple basic questions about their animal. We wanted this to be a true experience for the kids. Ok, how am I going to handle this?
>
> So I put a little additional though into, that evaluator has to be a very special person, is it possible for me to teach that evaluator three questions that he could sign to Valerie, so that it doesn't have to go, again, it could be direct to Valerie and not through an interpreter? He came in early, worked with Carrie to come up with three basic questions, and he signed those questions to Valerie and she signed back. It was in the poll-barn arena where there were about 150 parents and participants sitting in the bleachers; there was absolute silence, it was absolute silence. And the smile and the joy on her face when she finished. I will never, ever, ever forget that, no matter what happens. It was priceless. And her mom was just in tears, that "My gosh, this is the experience that my daughter had."

Another story came from someone involved in the Kenyan project. The person started the story by mentioning the reservations he has sometimes felt about working on an abstinence-only program (which is required because of their connection to the Catholic Church):

> And we were talking with our Catholic partners, and we always talk about it as an abstinence program but it's so much more than that. It's very holistic and it's trying to break taboos about the subject of HIV and AIDS, which a lot of youth don't really talk about. It has a lot of stigma, so we talk a lot about stigma reduction. But then we also talk a lot about how [unlike] in some of the abstinence messaging being "You're bad, if you have sex you've sinned, don't do it, just say no" kind of thing, [our approach] is really an approach that's empowering to youth which is really focused on "You have a right to determine what happens to your own body, you have a right to say no." And I think that's sort of a different way of looking at it because unfortunately for a lot of Kenyan youth, realities around rape, or realities around just being taken advantage of, especially for young women, and not having the agency or the power to say no really seems to be really prevalent, and a big focus of the program is actually saying "No, you do have a right to say no, you do have right to not have sex if you don't want to. You have a right to wait

until you're married and to make that decision."

And I was talking with one of our Kenyan partners and she said that a young woman in one of our classes, she was in our program, so she would've been between the ages of 11 and 14, said after going through the program and felt comfortable enough to go and talk to one of the teachers and she told the teacher that every day when she walked home from school, she was actually raped. But she actually didn't think that this was, that she had a right not to be. Because it was so much a part of her lived experience that every day on her way home from school there was this man in the village and he knew that, he basically would take advantage of her.

And she talks to her teacher about this and says she was upset about this obviously, and the teacher then was able to, while protecting the students confidentially just bring it up to the class and then the class actually decided that after school all the boys would walk all the girls home from school and make sure that they got home safely and that became a practice for this classroom. And that was for me really kind of a moment where I said wow. So I became aware of this horrible lived reality of a lot of young woman across Kenya and I'm sure in other areas as well to feel so much, to be so disempowered that you didn't even know that you have a right not to be raped. So this program opened up a space where she was able to become aware of that and actually take, have a little bit of power given back to her and have a little bit of agency and it also gave a space where she was able to go to a responsible adult like the teacher to talk about this, and then the teacher was actually able to make a change in the classroom that benefitted that young woman but also all the young women in the class.

And that really came out as a direct result of the program because that's something that we talk a lot about. There are entire modules about healthy relationships and what to do if you are the victim of rape or incest and who you can talk to. And the teachers are trained themselves on sort of how to deal with this. We encourage the students to have that relationship with the teacher and we make sure the teacher has at least enough skill to give a referral to a health facility if a child needs it or to report anything to the police if anything needs to be reports. Yeah, that's always one of the things that I think about in the back of my head; that is really the power of this kind of a program. And we've seen that when we go and we can see schools that are implementing it, you see sort of, I don't want to say a cultural shift, but you see a different orientation to HIV and these issues that are often ignored or not talked about. And I think that's the power of a program like this, being in the schools and getting the youth at young ages.

So it's hard to get that in the numbers, but you can try.

What core component of these programs could be extracted out by way of an experimental evaluation design so as to provide rigorous evidence of these programs' effectiveness?

Conflicts of Adaptation: The Developers "Know"

In the first sections of this chapter, I present an overview of how intermediary support for EBP implementation is enacted in practice. As I suggest in those sections, one of the most crucial issues in EBP work—regardless of whether one's viewpoint is informed by technical-

rationalistic, poststructuralist, material semiotic, or any other philosophical perspective—is adaptation. It is around questions of adaptation that I identified the most glaring gaps and tensions.

An administrator at NYSDOH who works with the ACT for Youth program (who was a practicing nurse before becoming an administrator) began discussing the need for—and inevitability of—adaptation this way, beginning with the rationale for promoting EBPs rather than homegrown programs:

> I think, when you work long term with people, people will tell you they did something because they know it works, and there is no background to support the claims that they make. And I think that one of the most common things we'll hear from people is "In my professional judgment." And in my background, my educational background, I remember specifically in some courses that I took on decision making, we know that without a real formal assessment with real formalized tools, looking to evaluate how something is working, clinical professional judgment only goes so far. And there are limitations to that. So, from that standpoint, really looking at something to be much more standardized with some really good logic. And I think the example may be that with our programming knowing the sequence of things need to be taught; that young people need to understand anatomy and physiology before they're going to be able to understand how you do get pregnant and how to prevent a pregnancy. That there has to be a logical order of things, there's materials that have to be included for them to get a full understanding of an issue. And certainly then be able to put that into practice.
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> I think the one downside to it is again coming from clinical experience is that it takes out the ability to make some judgment. And I think that when you're very prescriptive in the way in which something has to be implemented, it takes away the ability or it can infringe on a practitioner's ability to be making adjustments as necessary. Not every single classroom full of young people is going to understand things in the same way as somebody else. Or maybe there will be very small cultural differences between groups and they want you to present something in a different way or implement a different activity and I think that sometimes evidence-based programs can be too prescriptive and that everybody has to be approached the same way. So from the positive there are some areas that are negative. …
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> I some of the time hesitate because sometimes when you give people an inch they take a mile. So if you allow a tremendous amount of flexibility or variation, that they really take it beyond the point of just a minimal change. So for that reason I think that there's some concern about allowing adaptations to programming because it has to be done within limits. So I think that I would always hope that somebody standing before a group of young people is always using good judgment. And if they just had that sense that something was not appropriate to be presenting at a specific time for a specific grade that they address that and seek guidance from someone. Always have someone to kind of

> sound it off. And that's one of the better parts having the Center of Excellence and the contract managers is that if we do have a program that is having difficulty in the community they can very easily call the Center of Excellence.

In short, adaptation is a necessary piece of the picture, whereby educators should be able to use their professional expertise to make small adjustments. Yet EBPs limit the agency of expert practitioners; and once people begin making changes, adaptations can go too far. This highlights the fact that, in the CAPP initiative, there are "pre-approved" and "unapproved" adaptations, as I mention above in the section on what intermediary EBP work looks like in practice.

Pre-approved adaptations require obtaining formal permission from ACT for Youth to make specific changes. Guidelines for adapting EBPs exist. For example, on the ACT for Youth website, there are two PowerPoint presentations based on the Green Light-Yellow Light-Red Light approach to adaptation created by the CDC's Division of Reproductive Health and ETR Associates (a research, training, and consulting firm that is very active in the "science-based" adolescent sexual health domain; they publish 12 EBPs). A document, "General Adaptation Guidance: A Guide to Adapting Evidence-Based Sexual Health Curricula" (Firpo-Triplet & Fuller, 2012) provides an overview of the CDC-funded EBP adaptation program and outlines the three levels of adaptation:

> Green Light Adaptations are safe and encouraged changes to program activities to better fit the age, culture, and context of the population served. Yellow Light Adaptations are changes that should be made with caution. Consulting an expert in behavior change theory and curriculum development is highly recommended. Red Light Adaptations are unsafe and should be avoided since they compromise or eliminate one or more of a program's core components.

They have made seven adaptation guides available that offer specific guidance for seven different EBPs that ETR publishes. The investment in creating these adaptation guides is another aspect of the industry of EBPs to which some interviewees referred.

In addition to reviewing and responding to providers' requests to make adaptations, one

of ACT for Youth's primary activities is keeping track of and trying to reduce unapproved adaptation that would put the efficacy of the program at risk (see Figure 4). An overview of some of the unapproved adaptation that occurs is offered by this ACT for Youth interviewee:

> Adaptation is a huge issue. Theoretically, the grantees are not supposed to make any kind of adaptations without advanced approval from the COE [Center of Excellence, i.e., ACT for Youth]. However, as I said before, most of the EBPs are created with 6 or 8 or more modules. And the modules have been developed for 60 minutes each. A classroom in school is generally anyplace from 35 minutes to 45 minutes. So right there from the get-go, we've got a problem. Then most of them were tested with groups of teens like 10 – 15 teens in a group. If you go into a classroom, it can be anyplace up to 45. Now we discourage them doing that, but they still do it.
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> And there's a little bit of a contradiction that is understandable. The state needs numbers, to justify the amount of money that goes into this; it's a huge expensive program. So when they're saying we need more numbers, you have to do it a little more energetically, if you get a class of 45. But on the other hand, that means certainly anything that big, and that's an outlier, but … it's got to be a manageable number of kids in order to do the activities and the feedback and the discussions you're supposed to have that are an important part of the learning, so the educators are apt to skip an activity or instead of having it be small groups, do some sort of talk back in the full group. So they're adapting, they're changing. They're changing time, they're changing some of the activities.
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> Some of the educators, we've discovered, don't like talking about certain things to do with sex, so they don't talk about those. So there's a lot of what we're calling informal adaptations going on. And our only handle on adaptations—we'll have a little bit more with the observation—but the only real handle we have on this at his point are self-reports from the educators who fill out fidelity checklists at the end of each cycle of a curriculum. As we all know, self-report isn't the best way to do this but it's the only feasible way, really. We also are finding that some of the schools or CBOs, more the schools, though, pull students out of class to do various other things with them; if they have a special need or if they've been in trouble, or whatever. So the dosage they're getting is not optimal.

Often, the fidelity checklist component of the eval. packet comes back indicating that all of the EBP's modules were implemented without adaptation. But in the comment section, or in an informal comment, the provider reveals that many changes actually were made:

> I always hear stuff that's totally not with the program. And they don't report it. Self report is always limited. We've got the fidelity checklist, but there are people who have 100 % attendance and don't make any adaptations. They have a 40 minute classroom period and the program is written for 60 minutes. Now, where's the disconnect here? Or they ask questions like "Can we do it this way or that way?" Or they have a new person, "Oh, we're doing it in 22 sessions," and everybody is like "What?!" So those are the

> funny moments. "Oh, I just started last month, and I'm doing Making Proud Choices and we do it in 22 sessions, 30 minutes each." That's not how you role this out. Right? A lot of people do it. They don't always report it.

Unapproved adaptations arise in part due to structural factors such as NYSDOH's push to reach a large number of youth, the contingencies of working within school systems, provider staff turnover, lack of provider staff capacity, and separation between the educators who actually implement the program and the administrators who actually wrote the grant to become a CAPP provider. In some cases, when ACT for Youth has trainings or meetings (such as the pre-implementation meetings using the GTO model to plan the initiative at the community level) it is higher-level administrators in the grantee organization who participate. ACT for Youth staff are unsure what messages actually reach the educators who interact with young people. Reflecting on this point, one ACT for Youth interviewee began by echoing the "If you give them an inch, they take a mile" concern expressed above. She said:

> My sense from some of the data is, once you say you can make adaptations, then any adaptation is just fine to make. And [there is a] one step removed kind of [situation]. ACT for Youth, COE is not training the educators, most of them. We're training the grantees. And then the grantees are doing something to train. We don't know what. Sometimes it can be a half-day discussion [laughs], it's not an in-depth training, as far as we can figure out, on the curriculum (or on the delivery method).
>
> COE, ACT for Youth has just gotten in to delivery; presentation is what they call it. But the grantee is the one that is going for some of the adaptations. And I don't even know if the educators know that this is an approved adaptation and you're not supposed to do any others. And whether they know that a change like cutting something out because you're running out of time is an adaptation. Do you know what I mean? So the language and the training, I think may be somewhat problematic. And a lot of this has to do with the fact it's a curriculum. I think it's different.

Another ACT for Youth staff person corroborated this point about the problematic supervisory structure of many provider organizations—which even involves subcontracting in some cases. I liken it to "a game of telephone."

> I do think some of the issues that come out with educators and how they're actually facilitating EBPs can be due to the supervisory structure within these organizations. So for example, I know one place where they've actually subcontracted with another

> organization the actual facilitation of the EBPs, and so the CAPP coordinator has no supervisory anything over the educator. But she knows that one of the educators is doing some things that she really shouldn't be doing but she has zero power to do anything. Like giving incorrect information about follow up questions; there were some things like just "What were you thinking, you just should not do that!" Especially given the group that they were working with. Just actual mannerisms and things that she just really should not have done.
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> But [the supervisor] can't say, "We really need to sit down and have a conversation about this," because it's not her employees. I think she's then spoken to her supervisor in the hopes that her supervisor will go, "Oh yeah, this is an issue," and then connect with the agency that they're subcontracting with, so it's like super indirect. But then I got the feeling that in connecting with her supervisor, it just was like, the lowest thing on the giant list of the things to do, so there wasn't really lots of follow-through on that. So I think the structure that they're using, the relationship between coordinator and educator is important.

During the period of my data collection, as part of their evaluation work, ACT for Youth was beginning to conduct interviews with providers, which they hoped would help identify and clarify issues such as the one recounted above.

Additional perspectives on the educator skills and capacities, which are called into question in the previous quotation, are offered by interviewee from NYSDOH, who was surprised to hear that ACT for Youth found it necessary to provide training on topics related to basic human sexuality:

> I remember recently being very, very surprised that they [ACT for Youth] found it necessary to do training on general human sexuality. I mean, these are sexuality educators that were hoping to be hiring in these programs and yet the basics that I would have thought would be kind of a basic requirement for hiring someone. They found a need to make sure that everyone had a level playing field with a starting level, baseline knowledge. I guess when I thought about it I shouldn't have been so surprised. But I do have to say that when I first saw that I was surprised by it.

And, as ACT for Youth and NYSDOH are aware, "the people who are most likely to take advantage of technical assistance, to call and ask questions, to ask for help, to discuss issues, are not the people who need it most, unfortunately."

Another perspective on adaptation is manifested through an ongoing effort of some in the BCTR, the "science of adaptation:"

> What we need now is much more of a science of adaptation. And the one thing we did is what I think now everybody should be doing. Namely, use some kind of systematic principle to adapt a program. So in our case we used CBPR techniques to understand what the community members using a program felt should be changed. We created the new program. We re-manualized it, and then we tested it against a comparison group. So that the step which is typically missing in adaptation is fine, do the adapted program, but then test it to see if it works. You know, don't take an evidence-based program, adapt it, and there you are. Keep testing to see if the outcomes are the same.

That interviewee was speaking specifically about a project that was presented to the BCTR "Talks at Twelve" lunchtime seminar series. The talk entitled "Measuring the Value of Program Adaptation: A Comparative Effectiveness Study of a Standard vs. Culturally Adapted Arthritis Self-Help Program" was presented by Emily Chen on April 11, 2013. According to the summary provided on the poster advertising the talk:

> Adapting evidence-based programs to match the needs of local settings sounds like a great idea: what could be wrong with tailoring a program to fit users better? But program adaptation can be costly and time-consuming, especially when using community-based participatory methods. What does research tell us about the value of program adaptation? Do adapted programs (compared to the originals) produce better outcomes? Are we sure that adapted programs are as good as the original? In short, is program adaptation "worth it"?
>
> In her talk, Emily Chen will share and discuss the results of a Translational Research Institute on Pain in Later Life (TRIPLL) study that examined the effects of an adapted (vs. the original) version of the Arthritis Self-Help Program (ASHP) among 201 older adults in eight New York City senior centers. Participants in the adapted (vs. original) ASHP had significantly better attendance records and were less likely to drop out of the program.
>
> Continued use of self-management exercises after the program ended was similar in both groups. Significant positive physical and psychosocial outcomes were documented in both programs.
>
> The adapted ASHP improved program attendance and retention, while maintaining improvements in physical and psychosocial function. The results highlight the need for comparative studies of adapted vs. original evidence-based programs, both to quantify the benefits of adaptation and to ensure that the adapted programs are as effective as the originals.

Observing the talk, I was struck by Chen's apologetic discourse about adaptation. She assumed that the audience would question the legitimacy and value of adaptation because it would be seen as compromising the integrity of the rigorously tested program. She asked the rhetorical

question, “Is there value to cultural adaptation of EBPs?” Interestingly, many interviewees in this study essentially flip that question around, asking instead if there can be any value to EBPs that are *not* culturally adapted. Another reason to be wary about adaptation, according to Chen, is that, to do it right, it could take nine months to one year. However, many EBPs can take over 20 years to be produced and established, so the investment of time in cultural adaptation is relatively small.

Discussing the quantitative analysis of the outcome data comparing the (instrumental) value of the adapted program to the original, Chen said, “It begins to get murky.” The adapted program did at least as well, if not better, on all outcomes except one—“stiffness in Hispanics” had a statistically significant change in the expected direction for the original program but not for the adapted one. However, attendance was better in the adapted program, which was “a good finding.” But there were limitations: the sites were not randomized, the session facilitators were not blinded (as to whether they were facilitating the treatment or the control program), and the statistical patterns were “fuzzy.” This led to a discussion amongst the audience about whether or not cultural adaptation was “worth it,” and about navigating the tricky conflation of statistical significance with “practical significance.” Also, during the question and answer period of the talk, I was interested to hear the audience engage in what I perceived as “armchair anthropology”—the discussion turned to a consideration of which aspects of culture are *universal* (“self-efficacy” was forwarded as one), and thus should show similar outcomes irrespective of the cultural appropriateness of the program, and which are *particular* to elderly Black or Hispanic populations. This is a question that arises, though perhaps not as explicitly, elsewhere in my data: the 4-H educator quoted above perceived the failure of the 4-H Tech Wizards EBP to be due to the fact that it was tested with Hispanic youth “who had strong family

support," yet was implemented in her county with youth for whom that was not the case. Below, as I offer more data on adaptation of EBPs, the issue of needing to fit the program to the population comes up again.

First, I offer an alternative perspective on what "scientific adaptation" might look like. Instead of replicating the rigidity of RCTs along every step of the adaptation process, one could operationalize a definition of "science" that is closer to the way most working scientists actually practice—through processes of critical inquiry , for instance. Hamilton hints at this point in his manuscript on TR in youth development; he discusses a viewpoint on adaptation in which it is encouraged, learned from, and treated as "practical trials:"

> This treatment of adaptation as an essential element of dissemination contrasts with the view that EBPs must be implemented as replicas of the original. Durlak and DuPre (2008) reviewed studies of program implementation and found that quality of implementation was strongly associated with positive outcomes, but they also concluded that adaptation is not the enemy of fidelity but usually inevitable and, when done well, a source of more favorable outcomes rather than a dilution of program quality. This makes sense when one considers the wide range of circumstances in which EBPs are introduced and how they are likely to differ from the conditions in which they were developed and tested. Populations vary, as do communities and the organizations sponsoring programs. A school-based program designed to be delivered in hour-long segments may be introduced into a school where periods last 47 minutes. An out-of-school program that demonstrated positive outcomes with high rates of participant retention may have offered financial incentives that are not allowed when it is implemented after testing has been completed. Glasgow and Emmons (2007) identified barriers to the use of evidence-based health interventions and advocated "practical trials" (p. 421) to test them with diverse settings and participants and alternative treatments. (Hamilton, unpublished manuscript)

This notion of "practical trials" evokes Donald Campbell's extensive and important work on evolutionary epistemology and related topics (Campbell, 1984, inter alia). Based on that work—including his critique of logical positivism's definitional operationalism—he offers the following recommendations to the field of program evaluation. He calls for large numbers of decentralized local innovators and independent adopters, independently making the many ad hoc decisions about implementation and measurement.

> (1) For a new program or policy, give up the demand for a nation-wide, once and for all, uniform evaluation, delegated to a single evaluation contractor. Substitute instead support for a heterogeneity of programs, each evaluating themselves until they feel they have a package worth others borrowing, and support those who borrow to cross-validate the efficacy: That is, adopt a "cross-validational model of program dissemination and validation." (Campbell, 1984, p. 19)

Yet, absent such a Campbellian living laboratory, EBP work continues to unfold in tightly controlled contexts akin to poorly sketched caricatures of how science happens. As such, when I interviewed an administrator at NYSDOH, we discussed the issue of adaptation, and I asked about how to best update and adapt EBPs while still maintaining their "evidence-based" status. The administrator replied:

> Well, there are a couple of things. I think first of all, they do have to be, you have to do work through the program developer to change the amount of adaptation you can do in order to still remain true to the model. I think what this experience has taught us is that we didn't know how much we didn't know about evidence-based programming and I think that when we get ready to re-fund the pregnancy prevention programs in another—those contracts will start in another three years—we will definitely consider restricting the list of programs that would meet all the requirements that we want to set and don't require the level of adaptation that they've required. Because we actually had programs that didn't, that were abstinence based, and this is a comprehensive model, so you know that's about as basic as you can get.

Other interviewees, in the quotations presented below, resoundingly agree with this person's admission that the NYSDOH didn't know how much they didn't know about evidence-based programming. A handful of people working with ACT for Youth described the tensions, gaps, and messiness involved in the work in much greater detail. Echoing the NYSDOH administrator, and providing another perspective on the need for culturally adapted EBPs, this interviewee begins by mentioning the irony that some programs on the list were not even comprehensive pregnancy prevention programs:

> The best thing about that is the Federal Government as well as the Health Department says well you have to use an evidence-based program from that list but it also has to be comprehensive sex ed. Now some of them are abstinence only. Some of them are youth development programs that don't really talk about sex at all. But they had outcomes that had influenced delay of sexual initiation let's say. Duh. But they didn't really talk about

[sex], but they're on the list. So that really created a little tension in the beginning. Because there was this one abstinence only [laughs] one that the Health Department said has to be off the list [laughs] and we had seven providers that had already picked that program; because in middle school it's easier to go in without a condom demonstration or anything like that.

You see, initially a lot of these programs were developed in response to the AIDS crisis, so they're HIV focused. So they don't talk about pregnancy prevention at all. It takes ten years to get this program from development through evaluation and experimental settings and then publish in a journal, it takes like ten years. [And the world has changed] and youth culture has changed. So, most of the programs are older, mostly inner city, often African American and Latino. There's nothing for white, rural folks. [And nothing for LGBT youth.] Yeah, there was one program that was on another list that was developed with Hetrick-Martin in New York City, but no one picked that one, and it wasn't on the last list.

So that, I mean, it kind of questions a little bit when you go back to Getting to Outcomes and you say, "Well you do a good assessment, you look at the numbers, but you also do quality, you do focus groups, you talk to young people, you talk to community people, what are the norms in this community, what's going on here." Right? And then you try to match what's the best program. Now if you have a Native American group in Seneca Nation in Cattaraugus County. We have Cattaraugus and Allegheny County in here; there's no program for those guys. There's nothing for Oswego County because there's really nothing for white people [laughs]. So it's not so easy, with Getting to Outcomes, you want to match what your community needs are, and it's not so easy, even if you have a list of 28 programs or 30 programs, that really match that.

Or you have special education. See, a lot of people are going in to schools and who do they get assigned? Special ed. classrooms. Now, with a special ed. classroom, there're all kinds of kids in there. They have learning disabilities, they have emotional issues, so they have behavioral problems. Their needs are different. There's a range of needs in there. And there's no program that really addresses special ed. or kids with developmental disabilities. So now we have some guidelines for how to work with those, but you have to make major adaptations. I have a background in mental health, but I hired somebody who has done this work already, sex ed. with kids with disabilities. And then I had some providers who are already working with these groups, and we had a couple of sessions and she provided some initial guidelines for them to review and then they're reviewing them again right now. But in this initiative overall, that group, that small group, we had people who are working in a residential setting with the autism spectrum, and then we had people with special ed. in the classroom. I mean, there are very different needs. Autistic kids have very different needs than learning disabilities.

Responsible Choices. As stated above, some EBPs on the list (that was created by Mathematica and sanctioned by the federal and state funding agencies) are not actually comprehensive adolescent pregnancy prevention programs. One is abstinence-only; others are general youth development programs that have been shown to reduce adolescent pregnancy

rates; still others have nothing to do with pregnancy. Against the backdrop of this ironic state of affairs, what transpires is the most flagrant example of skewed knowledge politics in practice that I encountered during this study. It has to do with who can adapt EBPs, and what is involved in doing so. Already, above, I have outlined the rather patronizing and even punitive discourse around practitioners' "unapproved" adaptations. As represented in the data presented below, I learned that there is a different standard when the "developers" adapt programs. The EBP developers are usually university-based researchers who create, pilot, and conduct RCTs on the intervention. Sometimes, they also work with external evaluation consultants or research firms. They always work closely with "purveyors," the publishing companies that package and sell the EBP products and services, such as the EBP curriculum itself, other items that are sold separately (such as facilitator training guides and student workbooks), and "developer certified trainings." Because of EBPs highly scripted and prescriptive format, they are often referred to as "boxed curricula;" some EBPs, like Responsible Choices, literally come in a box: a cardboard box. Responsible Choices is published and sold by a purveyor called Media Producers.

The most flagrant manifestation of problematic knowledge hierarchies that I observed arose when ACT for Youth approached the developer regarding the fact that the program lacked any material on pregnancy prevention.

> We have several developers who we've gone to them with a problem. For instance, one of the EBPs is for HIV and STDs and really doesn't talk about pregnancies. So we went to the developer, it's a very popular program, and it's on the list for teen pregnancy prevention, God knows why. But it's on the federal list. When we went to the developer, the developer said, "Oh that's easy, I'll add a module at the end on pregnancy preventions stuff. And did that and sent it back to us. Now they have a new version that people have to buy, and it hasn't been tested. When some of the providers got this new version with this thing tacked on, they find it's not even in the same style as the rest of the curriculum [laughs], and both educators and the providers, kids don't like it.
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> It is [Responsible Choices], which is one of the big ones. …The change that came out in the new version added some other things. One of the positive adaptations that people make is to update the statistics to current statistics, since most of these were

> developed 10 – 15 years ago, whatever. So in doing that and responding to needing more current videos and stuff like that, they put in new videos. So the developers did all that stuff in the new version, but they didn't check for the timing of things. And now, with this new stuff in there, it's a positive thing, but now the timing is off.
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> [I ask: Why can developers make adaptations like that without re-testing the program?]
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> The developers "know." But why they don't have to test these things again… How they can still call it an EBP, I don't know. …It just drives me crazy. And understandably the educators are saying "Hey, how come they can do this and I can't?"
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> There is federal money out here for taking homegrown programs and doing rigorous research to make them EBPs. It is from the Office of Adolescent Health. There's one New York provider that is being considered. They have a grant from the state and they're being considered by Mathematica which has the federal contract. It's a program that they've developed for youth that are in foster care, like group homes, for teen pregnancy prevention. And they're being considered as part of the PREP program which we have eight programs in the CAPP project that are PREP grantees, and that has separate federal funding but tracks exactly the same stuff as the CAPP stuff, and there are a few changes. But the federal program is being analyzed, evaluated by Mathematica.
>
> [I say: The developers "know."]
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> That's the theory. The theory is that they did the original, so they must know what's OK! The theory is that you can't change a core component, so if the developers, and certainly the numbers and the statistics … to update the numbers is not changing. But adding a whole new topic; and if it's been tested for HIV and STD and you add this one for teen pregnancy prevention, it seems to me that it ought to be tested for teen pregnancy prevention. But my guess, since it's a different style and everything, is that they lifted it from another program.

Especially against the backdrop where scientific knowledge is privileged above all others, it is striking when someone "just knows" something. The simplicity of the developers "just knowing" is reminiscent of Goldacre's rejection of postmodern critiques of EBM: he 'just knew' he could dismiss them because they disagreed with EBM.

Another interviewee told the same story, with even more detail, and with just as incredulous a tone:

> So there's one program, that's one of the older ones that also has replication studies, Responsible Choices. And Media Producers, which disseminates the program and they do training, they're in New York City, and initially when we started they were totally unresponsive. … And so I went after one of the developers who was easier to talk to and I got the name; I got that hint from somebody, I guess from one of the national groups. So

now I have developed this relationship with [A], who's one of the writers. She's a sex education person and she was based in a small school in Pennsylvania, Widener, which had a graduate degree in human sexuality, so she's in the faculty there. So she's been writing, with [B], all these programs.

So I developed this relationship with her and I gave her money to do an add-on session. That Responsible Choices; they have several versions of it. The most recent available version of it last year was HIV/STD focused. No pregnancy prevention at all. So we added a session on pregnancy prevention birth control methods. Took us a while to get that, back and forth and then we had to get it proof read by medical people and the Health Department sometimes goes overboard on this kind of stuff. And even if now we have an add-on and then Media Producers, in the meantime I have a relationship with Media Producers, they came up with an updated version and that updated version has a section on birth control methods in it. But that updated version that just came out last year in 2012. It's also updated videos.

I mean the videos were really old, so this was a laughing stock. So they got new videos. The video is one thing but they also added this [birth control methods section]. And that has not been evaluated; they just did that. It's a new, updated version [laughs]. This is now the evidence-based program that was not the same a year ago. So now we have both in circulation. We have the old version with the add-on session, but that add-on session, that doesn't create an evidence based program either because it's just a developer developing and saying this is a good method to do it and so we got her approval but it doesn't mean that whole thing was evaluated, right? I mean, there are all these things going on that don't make any sense. …

They [the NYSDOH] thought because the developer approved it, then it's fine. They don't get it. I don't think they get what it means to work with an evidence-based program. They're like, "It has to be comprehensive sex ed." Initially we tried to figure out what do they mean by comprehensive sex ed. Because there are different definitions of what that is. We could never get an answerer on that. Only that, it has to be, kind of redundant circular argumentation. So it's really, it's a bizarre thing. So because of the federal money, a lot of these things have been updated and Select Media is really, really pushing updated material. So all of their curricula have been updated to include pregnancy prevention [laughs] and use the same kind of videos.

[I ask: But no one is doing more evaluation, more trials?]

No, no. And some others, I think ETR has been working on it too, so they're updating their curricula. But to do replication studies, that takes time. … So this whole field is pretty funny.

This chain of events would not be considered part of the "science of adaptation." Although it isn't directly related to adaptation, I encountered evidence of other instances in which the logic and rigor of science becomes a veneer for haphazard practices. In this case, it pertains to guidelines for what level of youth attendance is required in a program to constitute the proper

"dosage" for that intervention:

> Recently, we've had a discussion with DOH on what is the benchmark for dosage for attendance. And most of the EBPs, or all the ones we have been able to track research on, have only reported the data for the kids that attended 100% of the program. So are we saying now, when you go to scale, that the kids under non-controlled circumstances and non-incentives, without incentives have to attend 100%, or at this point our average is pretty good, its 80%, although I don't quite believe that; there's some fudging gong on, doing a little bit like the developers do. So 80%, I suggested in this conversation that Jane ask the head of the evaluation for the PREP project at Mathmatica, if they knew, because there's nothing that is reporting this. And she just talked to them and they said they're using 75% and I asked her to go back and ask them if they could tell us where they got that 75% and what study supported that and she went back to them and she said no the feds decided they wanted 75% so that's what they're using as their benchmark. As far as we can tell, it was "Oh, 75% sounds doable; we'll go with 75%" [laughs].

Harkening back to the discussions of the sociality and everydayness of scientific practice presented in chapter two, these stories suggest that the science-based foundation of EBPs is extremely shaky.

Be Healthy. In addition to these problems with EBP adaptation in the U.S., I learned about other, different tensions and gaps that befall EBP work in Kenya. In my description of EBP work in Kenya, I mention that CDC researchers and colleagues actively work to adapt EBPs that have been created and tested in the U.S. (usually with African American youth) for implementation in Kenya and elsewhere in Africa (e.g., Fitzgerald et al., 1999; McKleroy et al., 2006; Parker et al., 2012; Poulsen et al. 2010). Here again, questions of the universality of certain aspects of culture, and the generalizability of evidence derived from RCTs become important. Generally, CDC researchers and colleagues follow the approach to scientifically adapting and testing EBPs for cultural differences that Chen presented to the BCTR group (though Chen's project was unique in comparing the adapted and original program head-to-head). I spoke with someone at the CDC who had been involved in adapting Focus on Kids, a U.S.-based EBP, for use in Namibia:

> With that program we did it very rigorously. It was not a quick and dirty adaptation. Which was great but it was also very time and resource intensive. And so we, it was a very similar process to what we had originally done in Baltimore where we started off doing qualitative work, including focus groups and individual interviews, and from that we developed a survey and did a quantitative survey and then we adapted the intervention and tested it in Namibia. And then with all these things, how they go, the protection motivation theory as our guiding principles or our guiding theoretical basis. So it was a very good process. My understanding is that it is still running in Namibia.
>
> We also adapted the Focus on Kids program to West Virginia and it was pretty much a flop. I think it's the relevance; we're taking an intervention for very high risk community and talking it to where there's almost no HIV at all. And it wasn't effective, whereas it has been effective in Namibia and in the Bahamas we've had very successful rates. I think there's a wide range of how well adaptation has been done.

On this elusive issue of cultural appropriateness, the MCMR curriculum is consistently cited as a stellar example, since it was developed in Kenya, in partnership with educational experts at a faith-based educational organization. MCMR "incorporate[s] not only Catholic doctrines and teachings, but also Kenya's rich and unique cultural heritage."

Not all U.S.-derived EBPs can make that claim. I learned about one EBP— Be Healthy— that was imported from the U.S. for use in Kenya that resulted in open tension and conflict. This interviewee, who is part of the Kenyan project's U.S.-based team, describes the small latitude for adaptation that is afforded implementers of the MCMR program, and then contrasts that with the rigid and culturally-abrasive, in this case, introduction of Be Healthy.

> We have a couple different dioceses, but mostly near the coast, in Mombasa and Malindi that are predominantly Muslim. So the program is Christian … there are Bible verses in it, there are Christian values infused throughout, but really they're universal values, or we can argue that they're universal values. So in the predominantly Muslim dioceses, how the teachers at the local level, we know that there's one teacher who replaced all of the Bible verses with verses from the Koran. And basically if we're talking about different values, like it might be chastity or generosity or caring for loved ones, those kind of things, you basically find a verse from the Koran that matches what we were trying to say with the Christian verse and use that. And our partners are completely open to that and they actually encourage that. Because even though there's a Catholic, the Catholic Church, they're very open to interfaith practice. They're very open to schools and students in their schools and even teachers that are not Catholic themselves and making sure that they feel welcomed and can be part of their programs as well.
>
> So because the way MCMR is designed again, it's not as structured. We do have what we call our core elements in terms of what needs to happen in order for the program

> to be implemented successfully, but there are a lot of areas where the teachers get a little bit of local adaptation. They get to figure out when best it works in their school to implement the program. In the case of the Muslim schools, they're allowed to actually change somewhat, not change the content delivered, so with verses from the Koran versus verses from the Bible, those kind of things. And then they also get to change the order of the modules as they're implemented. We ideally say, in a perfect world, you would implement the modules 1, 2, 3, 4, 5, and 6, but we hear often that, a lot of areas especially near the coast again where there are issues of drug use and substance abuse, they actually prefer to start with our module on drug use and substance use first, because they feel like there's a great need for that; that gets people involved in the program. So in those areas it actually makes sense to start with that module first and our program allows for that kind of flexibility.
>
> So I think that's really an asset to the program because it allows that level of local adaptation where something that might work on the east coast in Kenya might not work in the central province and that might not work in Kisumu, so we allow the some flexibility to adapt it at the local level.

This interviewee then contrasts those experiences with MCMR with his perception of what happened when Be Healthy was rolled out:

> In relation to the Be Healthy program, sort of the opposite happened. That was a structured intervention that was … us and adapted by the CDC in Kenya and they wanted to do this in one of the dioceses, but they didn't allow them to do a what we call an AB approach, which is abstinence, and be faithful, it was an ABC approach, so abstinence, be faithful, with condoms. And they basically went into a school and started talking about condoms and it was a religious school; they were not OK with it and they ended up throwing, the diocese actually banned that program from being implemented anywhere in that diocese.
>
> Because they just though you could just go in with this program and implement it and everything would be fine. And they didn't realize that the community had no buy-in and that the community didn't know what this program was, they didn't like it and something that was controversial ... they got thrown out. What we … do is actually we call it like a sensitization process. They go in before we implement program at all and they have a meeting with parents and teachers and the clergy and everyone and they say this is the program this is what it is. We're going to be talking to your children about sexuality and drugs and substance use and relationships and HIV and STIs and all these things and this is why the program is necessary and this is what it is. So they do a whole sensitization process for everyone in the community before we even implement the program to make sure that we have their buy in for it and they're very successful at doing that because [out Kenyan partner] is very respected, the members are from the community, they know the community, … buy in before we implement the program. And I think what we saw when the CDC tried to do Be Healthy was they just walked in, they said we're going to implement this program and it was immediately thrown out because the community didn't know what it was and they mistrusted it ... and with their values.

The CDC administrator who was more closely involved with the episode involving the tensions

around Be Healthy offers more detail. She begins by reflecting on the importance of the feasibility and relevance of the programs CDC supports, saying, "it's something we possibly have not done a terribly great job here in Kenya, yet of outlining those things and really prioritizing them, but I think we're kind of getting there right now; Because we were almost becoming irrelevant because of our focus." She then described her perspectives on Be Healthy. Interestingly, it is based on Responsible Choices, the EBP discussed in relation to problematic adaptation in ACT for Youth.

> So that intervention that's Be Healthy and it's an adapted intervention from [B's] Responsible Choices. One was an assistance intervention, …, and the other was more comprehensive. And they were adapted to Be Healthy I, which was adapted into Be Healthy II. So really it was something of a … Be Healthy I was supposed to be completely abstinence and Be Healthy II was comprehensive. Well, what ended up happening was the partner that adapted it trained people together. They decided that they were so much alike and there was one major difference but a lot of the activities were really similar. So they did the training together. And a lot of the comprehensive one ended up coming in to the Be Healthy I, so there was way too much condom stuff there than there ever should have been.
>
> There was huge outcry and it caused quite a problem. We ended up stopping that program all together and really having to do a lot of diplomacy work and backpedaling and now have really made them separate interventions. So Be Healthy I is completely abstinence, there's no condoms in it and its starting to be rolled out again this year after making all the changes and making it much more Kenyanized; Even though it was adapted once, it needed more. And it raised the point, both with that and then there's the parent program the Family Matters! program, which was also adapted from a U.S. program. Both of those went through a fairly thorough adaptation process.
>
> But one time I was sitting in on a Family Matters! program and there was still some line about "I ain't never goin' back," or something like that, and I said "That's not Kenyan, that sounds very African American to me." And there were still all these Americanisms that somehow had not gotten taken out. So if you start with the Kenyan process, it is so much more Kenyan then taking an American product and trying to make it Kenyan. Even so now we've done several more adaptations of all three programs, trying to make them more Kenyan but they still don't come across with the same Kenyan sound as probably MCMR does.

Especially in juxtaposition, the stories of tensions and gaps around the adaptation of Responsible Choices and Be Healthy (which, coincidently, are closely related) suggest that EBPs are not the gold standard for non-formal education. Any luster that EBPs would gain by being based on

"scientific evidence" seems to quickly fade when we look more closely at how they are enacted through everyday work practices and processes.

Meeting in the Middle

Given the difficulty of successfully implementing and adapting EBPs as they are currently constituted, it seems necessary to explore other pathways to making non-formal education be evidence-based. This resonates with another theme that I identified in my data: the notion of "meeting in the middle." Before closing this chapter, I offer some perspectives from interviewees on their hope for blended, balanced approaches to connecting research and practice. One CCE administrator hopes for a "partnership between Evidence-Based Practice, Practice-Based Evidence and a true 'What are we learning as practitioners and what are we learning as researchers,' to get at best practices." He relates this framing to Stephen Hamilton's "blending best youth development practices information with content."

> It's got both perspectives there: What are current philosophies and approaches around whatever it is, risk reduction for youth, and then what are best educational practices, you start to get at a blended package which appears to have a lot of potential but I think either without the other is limited, if we're just looking at the practice experience and trying to generalize from that without tapping into the research side, that's limited. And the classic Evidence-Based Practice of "Here's how you do it and only in settings that are directly parallel to what's been tested" is extremely limiting. If we adopted that in medicine, I don't think we'd be nearly as healthy as we are because every physician looks at the recommended practice and then applies it the best they can in their own setting. And I see a direct parallel for educators, and to not acknowledge that or validate the importance of that practitioner experience, I think really limits us. Any of the models taken to the extreme is an issue. That's why I come to the notion that I think it can and should be blended but it needs to be conscious, so let's not beat up any of the parties, because they're using practices that look little different from what seems to be the norm for some folks.

As I have shown repeatedly above, Hamilton's perspective is largely dedicated to finding blended approaches. Another CCE administrator's vision of hope is stated this way:

> To me, Extension, reading a little about the history and the spirit of what Cooperative Extension is over the last 100 years, I know that there are certain times that Cooperative Extension has been top-down, "Here's the way we do it," and that's the evidence-based

> programs feeding into that, "Here's what we do"—boom. There have been other times that we haven't had a lot of leadership and articulation from the top and we've been all bubble up, with counties going, "Hey, I've got a great idea." But the times that we're the most effective is that we're top down and bubble up and we meet somewhere in the middle, where counties are shifting and shaping those programs that are well done and written up and articulated and have a curriculum, from Cornell or other land grants and they're tweaking them to the needs of the local community, based on the skills and the talents of the particular educator, and based on the needs of the local community.

This interviewee involved in the Kenyan project calls for a similar meeting in the middle. His concluding remark that "There either won't be funding for the program or there won't be a community to accept it" is particularly insightful.

> And I really do feel that everyone wants the best programs in the field but we have different ideas about that that is, so in terms of research into practice, I think that research is important. We need to know what are effective approaches; we need to know how to make programs that are going to actually help improve people's knowledge and how to do the behaviors to reduce their HIV risk. But you also need a lot of the practice … people on the ground who are familiar with the community, that are familiar with the challenges that those communities are faced with so that it can actually make sense. And really what I kind of tell myself is it's messy and I don't really think there's a perfect answer there is no one size fits all, it really is going to come down to a case by case basis. You're going to have to sit down with people in every local community and you're going to have to say, trying to come to some kind of a, you have to meet in the middle, there's going to have to be some kind of a compromise between the two, because both sides have valid points, both sides have their own relative expertise, and its where those two thing, if you can get those things to come together and get both of the organizations buy in then you're actually going to see an effective program and it can't be one size gets everything that they want then it's not going to work no matter what, when it actually goes into practice, it won't work. There either won't be funding for the program or there won't be a community to accept it.

The prospect that these politics of evidence can hypothetically lead to a situation where "There either won't be funding for the program or there won't be a community to accept it" highlights the underlying sense of what is at stake in these divergent perspectives on what non-formal education is and on how evidence should interact with practice.

CHAPTER SIX: CONCLUSIONS

In this final chapter, I pull together the strands of analysis that are interwoven throughout the presentation of data in chapters four and five to draw a handful of conclusions. First, though, I briefly summarize the preceding chapters. After first introducing the study in chapter one, in chapter two I provide a wealth of contextual information and theoretical perspectives to help situate evidence-based education work. Upon that background, the phenomena of interest—efforts to make non-formal education be more "evidence-based"—can be more thoroughly understood. The theoretical perspectives presented in that second chapter—especially those from the field of science and technology studies that shed light on knowledge hierarchies and other aspects of epistemological politics—are particularly helpful in analyzing the political causes and effects of dominant approaches such as the promotion (or mandating) of EBP implementation. Then, in chapter three, I present my methodological approach that supports the use of in-depth interviews, observation, and document analysis to elucidate the details of practice in three focal cases. Drawing from the data produced using those three methods, in chapter four I introduce the three cases in much more detail, focusing especially on the trends facing each case relative to their need or desire to work specifically with evidence-based programs or evidence-based practices.

Finally, in chapter five, I analyze the intricacies and contingencies involved in supporting the implementation of evidence-based programs and in working towards evidence-based practices, answering, for each of the three cases, the questions: How is evidence-based program and evidence-based practice work actually practiced? What perspectives and assumptions about what non-formal education is are manifested through that work? and, What conflicts emerge

through that work related to those perspectives and assumptions? In doing so I reveal remarkably divergent perspectives and assumption about what non-formal education is and about how it should be informed by research evidence. To recapitulate, each of the three cases involves efforts to make non-formal education more evidence based, though the details varied across cases.

The Politics of Evidence in Practice

For instance, ACT for Youth's work centers on providing intermediary support for EBP implementation and seeing to the other objectives of the CAPP initiative. They work with 58 "providers"—diverse community-based organizations—which are funded to provide non-formal adolescent sexual health education to their communities. Specifically, ACT for Youth is involved in surveilling implementation fidelity, providing training and technical assistance, creating research briefs, and connecting research and practice in other related ways. In their context, "evidence-based" education refers to a list of 28 EBPs—tightly bounded and scripted curricula—created and subjected to RCTs by "developers," published and sold by "purveyors," and subsequently ranked adequately highly by Mathematica Policy Research and Child Trends in the systematic review they performed for HHS. The work of 4-H centers on implementing and supporting the implementation of mostly "homegrown" programs in clubs, afterschool programs, and other non-formal positive youth development education contexts across the state. In the context of 4-H, "evidence-based" education refers to diverse efforts to better connect practices and programs with research and evaluation. This occurs through a multitude of pathways; in this study, I focused especially on a pilot project in the Western District of New York, called "Research for the Continuous Improvement of 4-H."

The Kenyan project's work centers on developing and evaluating a "homegrown" program while simultaneously providing support for the implementation preexisting EBPs. In

their context, "evidence-based" (or, "evidence-informed") refers to EBPs—again, tightly bound and scripted curricula—that have been developed and subjected to RCTs in the U.S., adapted (more or less) to the Kenyan context, and are supported by the CDC. Programs can also be considered "evidence-based" if they are rated adequately highly on the KHPIAT as judged by the Kenyan government (the Ministry of Public Health and Sanitation, National AIDS and STI Control Program) in collaboration with the CDC. The people involved in the Kenyan project hope their "homegrown" program will be found to be effective through their targeted, randomized evaluation and will be rated adequately highly on the KHPIAT; this will grant the program "evidence-based" status which will not only allow it to continue to be implemented, but which could also lead to its dissemination and implementation elsewhere in East Africa. Even for people who eschew facile notions of generalizability based on the power of an RCT design, the promise of disseminating a program to wider contexts is an exciting prospect.

As such, in response to my first research question, I elucidated what actually happens, in practice, when people support the implementation of evidence-based programs or engage in related efforts to make non-formal education more "evidence-based." I did so not (just) in the usual ways associated with implementation science (i.e., focused on technical frameworks, guidelines, and practices associated with efforts to increase the fidelity of implementation, or even the quality of implementation, of EBPs and other "science-based" approaches), but in a way influenced by an interactionist sociology of work, making micropolitics visible. I learned about providers, purveyors, about rankings and listings, about the EBP industry and its consolidation of people, agencies, programs, ideas. I learned about the textual tools that mediate this work (e.g., ETR/CDC adaptation guidelines, eval. packets, implementation checklists, narrated PowerPoints, enhanced TA protocols, GTO, the QIF, the KHPIAT, targeted evaluation forms, UNAIDS

terminology guidelines, standardized research briefs, administrative memos, and so on).

In response to my questions about perspectives and assumptions on what non-formal education is and what conflicts emerge related to those perspectives and assumptions, I highlighted that ways in which non-formal education is differentially constituted as an infrastructure for the dissemination of scientific information or as a grassroots site for knowledge sharing. Relatedly, it is alternatively perceived and performed as a program (meaning a tightly bounded, scripted curriculum) or as a set of practices. Focusing especially on problems associated with adaptations of EBPs, as well as on similar problems with EBP implementation, I find that these divergent perspectives are related to significant conflicts in how evidence-based education work unfolds.

The conflicts are multiple. There are technical and philosophical problems in EBP implementation, such as the ethical and pedagogical implications represented by the circumscription and undervaluing of implementers' expertise in providing relevant, effective education to their communities. On the other side of that coin, there are problems with poor capacity of implementers regarding both the content of the programs and the facilitation skills needed to engage youth meaningfully. This is related to issues with supervisory structures and the piece-meal rather than holistic planning of the entire community education effort. What's more, as ACT for Youth staff and NYDOH administrators know all too well, there are rampant "unapproved" adaptations of EBPs out in the field, due especially to time limitations imposed by school schedules. There are also technical and philosophical problems with the processes that get an EBP on the list of approved programs. For instance, there are EBPs on list that are not comprehensive and thus not appropriate for the CAPP initiative. There is significant mismatch between the context in which the program was tested via an RCT (e.g., participants were paid to

attend) and the contexts in which the programs are really implemented. There are questions about why 75% attendance constitutes acceptable "dosage," and about what "scientific" reasoning provides the rationale behind that rule. Most flagrantly, there are conflicts inherent in the fact that providers are not allowed to adapt the programs (except to a limited degree, if they receive authorization from ACT for Youth first), yet developers can make significant changes to an EBP and send it back out without any further RCT testing. How that program is still judged to be "evidence-based" is not clear.

Harkening back to the theoretical lenses presented in chapter two, their applicability and relevance to this particular study becomes clear in light of the data and analyses presented in chapters four and five. In all three cases, yet especially acutely in the cases of ACT for Youth and the Kenyan project, rigorous scientific evidence derived from RCTs is positioned by the funding agency as the best and only allowable form of evidence. The "esoteric cabal" to which Michael Scriven refers is established and regimes of truth are produced. The stories told by experts seem to lose their self-evidence. I observed how different ways of knowing about the world are dichotomized, hierarchized, reified, and deified through semiotic and material relations—through propositions, assumptions, problematic problematizations, and asymmetrical accounting practices that crystallize expertise, credible evidence, and truth. And I saw what effects those processes have on the people involved (especially non-formal educators). Specifically, I saw how programs are ranked as evidence-based, how "scientific" research and evaluation are (hazily) defined, how homegrown programs and local evaluations are denigrated, how educator expertise is ignored or effaced (as script-readers without the right to use professional judgment to adapt, as people needing permission to adapt, as people with token participation in steering research programs in an environment where programs not connected to

university research might be sloughed off). Tellingly, I encountered people who perceive lines of questioning such as those represented in this dissertation as "unnecessarily complexifying" otherwise simple issues. (Perhaps, like Hobbes, I misunderstand the simple.)

There are three additional themes that I identified in my data and that I touch on in the previous chapter. To succinctly summarize those themes, I identified: the amenability of particular content to RCTs and EBPs; the universality and particularity of various cultural and other contextual factors; and the certainty ascribed to RCTs and EBPs (apodictic aspirations and illusions). First, in my analysis, I observed the apparent variability in amenability of different topics, content areas, and problems to EBP work—seemingly (and problematically) a natural, intrinsic ontological trait of things (e.g., nutrition education, micronutrients, fertilizer and new seed technologies, bovine genotyping). There is a positive feedback loop to this: That which is more amenable is more studied, thus it benefits from a growing evidence-base, and it is thus made to be yet more amenable. Second, I describe the apparent universality or particularity of various cultural and contextual elements, for instance, when applying the "science of adaptation" to an EBP for elderly people, self-efficacy is taken to be a cultural constant, a ubiquitous human trait, while other elements about how people interact with each other and how they deal with pain are seen as different depending on one's race or ethnicity. I don't have an answer to the question of which elements of culture are universal and which are specific; my finding is that the boundary between them is social, fluid, contested; and that it matters. Thirdly, I noted the certainty ascribed to or derived from research, including (or especially) RCTs. One interviewee described the interplay of the instrumentality and the mystique of randomization. In an inaugural video produced to mark the opening of the BCTR, Loyola professor and former student of Bronfenbrenner, James Garbarino says, "Urie taught us that if the question is 'Does X cause Y?'

the best scientific answer is almost always it depends." In the words of Donald Campbell: "In spite of our longing for certain knowledge, such is not to be our lot" (1974, p. 140). Yet many popular notions of "science." and some of my interlocutors in this study, assume that it is produces the most credible, certain knowledge available. In a broad sense, this dissertation is largely about how claims with relatively strong scientific warrant play out in ways that seem distant to (dominant) visions of (normal) science. One of my findings is that randomization has both an instrumentality and a mystique. The distinction and interplay between the two points towards questions in need of further study.

Object conflicts. In addition, I find it analytically helpful to see these divergent perspectives and assumptions about non-formal education and the place of "scientific evidence" therein as "object conflicts" (Hess, 2004, 2007).[33] Object conflicts are "definitional struggles over a technology, product, or other form of material culture and the related conflicts over the object's design and diffusion" (Hess, 2007, p. 46). There can be object conflicts, for example, over what constitutes a "clean bus" or "organic food." The object conflicts concept is derived from two theoretical approaches in STS: a focus on "the construction of 'boundary objects' that allow cooperation and communication to occur among disparate networks and organizations"; and a focus "on the design of technologies, infrastructures, and other objects, [that] draws attention to the political and societal implications of selections among various design alternatives" (Hess, 2004, p. 496). In one empirical project employing the object conflicts concept, Hess draws attention to the instability of the boundary object category "clean fuel" buses: "The lack of stability occurs partly because the technology design, research on health effects, and emissions standards are changing rapidly, but it also occurs because efforts to define

[33] The notion of object conflicts has much in common with a related analytic approach in the field of STS: ontological politics (see Croser, 2011; Law & Urry, 2004; Mol, 1999; Woolgar & Lezaun, 2013).

a clean bus take place across various fields of action and power, a concept drawn from Pierre Bourdieu's work" (Hess, 2007, p. 46). His study of object conflicts around clean buses identifies four main fields: regulations, assessments of emissions, fleet-purchase decisions, and public opposition and participation. In my study, I have demonstrated and analyzed the fields of action and power in which efforts to make non-formal education more evidence-based take place.

Applying Hess's notion to my analyses, I parse the themes that I identified about divergent perspectives and assumptions on what non-formal education is into two fundamentally different modes: Mode 1 and Mode 2 (see Table 1). I argue that there is an object conflict between these two versions of non-formal education. As stated above, the primary axis of difference is whether non-formal education is seen and done as an infrastructure for the dissemination of scientific information or as a site of grassroots knowledge sharing. This axis is closely related to differences surrounding what the essential unit of educational interaction is: A program (meaning a tightly bounded and scripted curriculum) or a set of practices. As I present in the table, these two axes of difference relate to other variable ways of seeing and doing non-formal education.

Table 1
Divergent Perspectives and Assumptions about What Non-Formal Education is

	Mode 1	**Mode 2**
Non-formal education is…	An infrastructure for the dissemination of scientific information	A site of grassroots knowledge sharing
Program planning and evaluation decisions are…	Campus- or scientist-driven	Community-driven
The essential unit of educational interaction is…	A program (meaning a tightly bounded and scripted curriculum)	A set of practices and processes
Behavior change is assumed to be…	Simple, or complicated; linear	Complex; non-linear; dynamic
The focus is on…	Content delivery and specific outcomes	Process facilitation and general outcomes

It is important to note that, in practice, the two modes are not (usually) so starkly dichotomized as this table suggests. In the day-to-day contingencies of people's work processes, the two tend to be blended together with one or the other being more or less emphasized depending on the particular situation. However, the table offers a simplified heuristic overview of these divergent perspectives and assumptions that constitute a key finding of my study.

Both modes value evidence. Both have historical and legal precedence. Both are motivated by democratic and ethical concerns. As I show above, some EBP implementers value EBP implementation (though with some reservations), complicating the notion that EBPs efface educator agency. As I also touch on briefly in my review of the literature in chapter two, the pro-RCT movement is rooted in democracy, just like the pro-methodological plurality/educator expertise movement is—both sides of the debate, of the conflict, just have very different ways of working towards their democratic ideals. However, what Table 1 helps put into sharp relief is that, while the conflicts and tensions between these divergent perspectives may appear academic or irrelevant, they actually have stark implications for what non-formal education is and can be in society. Non-formal community-based education is a crucial site of interaction between research and practice, in which multiple and divergent epistemologies and ontologies clash through efforts to bridge the gap. In numerous and varied non-formal education contexts, the evidence-based education movement—and the epistemological and ontological politics they involve—are implicated in contentious transformations of social programs and social life. These transformations involve, for example, the heightened need to "scientifically" prove the effectiveness of programs in order to maintain their funding. Thus, these transformations involve new ways of delineating and circumscribing the conditions of possibility and impossibility for what education *is* in society and how learners interact with and are enacted by non-formal

education. That some forms of education and some educator and learner subjectivities are constituted rather than others is neither trivial nor inevitable. This is what Michael Scriven means when he concludes his critique of the RCT design by claiming, "This issue is not a mere academic dispute, and should be treated as one involving the welfare of very many people, not just the egos of a few" (2008, p. 24). It is similar to Visvanathan's discussion of epistemic justice, in which he writes, "One has to realize that epistemology is not a remote, exotic term. It determines life chances" (2005, p. 84).

Beyond plurality, the epistemological and ontological issues raised by these object conflicts destabilizes assertions of a priori boundaries between "types" of knowledge and of education; interferences, tensions, conflicts, and gaps generate multiplicities, hence options (Langwick, 2011, p. 236). What are the options and who is choosing? Taken together with all of the conflicts, tensions, and gaps that I have enumerated above, I conclude that the self-evident superiority of evidence-based programs must be revisited. Based on the data and interpretations presented above, I posit that the current dominant approach to making non-formal education more evidence-based by way of EBPs is fatally flawed. Also based on my interpretations, I propose instead a refocusing of the field's efforts on a more pluralistic approach involving support for evidence-based practices.

Implications

The insights and lessons summarized above have a number of implications, on a number of different levels. First and foremost, I hope that the staff and administrators of each of the three focal programs got some benefit from participating in the study (what Patton calls process use). Beyond that, I hope they can get even more benefit from reflecting on the results of the study. If these results can inform, elucidate, reinforce, corroborate, or in any other way positively interact

with the study participants' practices, then that will be a positive implication. On a slightly broader level, there are implications for how all three focal programs act in the future. Specifically, as ACT for Youth helps guide NYSDOH towards new directions for future funding, this study could help inform those processes. For instance, I posit that the issue of developers adapting programs needs to be addressed more systematically. For any of these implications to be realized, I must work closely with study participants and their colleagues to share the processes and results of this study with them. More broadly, as I have argued above, the stark consequences touched on by this study's findings suggest that further research and action are needed to intervene in the unbalanced and problematic state of affairs currently characterizing efforts to make non-formal education more evidence-based.

Directions for Further Study

I perceive two somewhat distinct directions for further study that emerge from this project. The first involves picking up where this study leaves off and proceeding in a similar fashion. That is, where this study fell short by not adequately historicizing certain institutions, technologies, and ideas, or by not following the storyline to look more closely at the developers, the purveyors, the evidence-ranking firms, and the like, there is a need for further study to do that. The second line is a more directly applicable one. Throughout this study, there are stories and hints of ways to connect diverse ways of knowing and being in a more equitable and effective fashion. The previous chapter concludes with some perspectives on these hopeful openings. Much of Hamilton's work is actually focused on trying to identify such potential new approaches to connecting practice and research. My colleagues at the Cornell Office for Research on Evaluation and at the Developmental Systems Science & Evaluation Research Lab at Montclair State University have explored alternative ways of building the evidence base of

non-formal programs. Trochim and colleagues have recently begun discussions on some innovative ways to promote the kind of natural experimentation that Campbell (1984) calls for. These lines of inquiry, which build on the insights provided through this study, have the potential to foster a more ethical praxis of non-formal education which embraces rather than effaces the intricacies and nuances that characterize social human action.

APPENDICES

APPENDIX A – Interview Protocol

Interview Protocol

Greet the person and thank her or him for taking the time to participate in this study. Chat for a minute or two, asking if she or he has any questions about the study, etc. Reconfirm permission to audio record; start the audio recording.

1. Your current job

a) What's your current position?
b) How long have you been in this position?
c) Can you give me a brief overview of what it is you do in your work?

2. Your motivation

a) What would you say most motivates you to do what you do?
b) What are you most excited or passionate about?
c) What are the goals you most want to accomplish in your work? Not so much the goals that are in your job description, but the goals you hold personally?

3. Your path here—I want to understand how and why you ended up here working in your current job at _____.

a) What led you to this job?
b) What were you doing before you came here?
c) What attracted you to work for _____?

4. Stories of your work—I want to understand more about the day-to-day realities of your work.

a) What is an average work day like for you? What activities do you do?
b) Can you tell me a story about a particularly memorable experience (positive or negative) you've had at work? Why is this story memorable to you? This story could involve, for example, successes, tensions, conflicts, key moments, etc.

** If the response is not actually a story, but is getting at ideas instead, follow-up with:*

i. Could you tell me about a time that displays that at its clearest?
ii. Is there a specific incident you can think of that would make clear what you have in mind?
iii. Could you tell me what happened, starting from the beginning?
iv. So what was that actually like for you when it happened?

If the person's story involves the research-practice gap, intermediary EBP work, or TR, skip ahead. If not, ask:

c) Does your work involve addressing the research-practice gap? If yes, how so? Can you tell me a story in which your work involves addressing the research-practice gap? *
d) Does your work involve evidence-based programs? If yes, how so? Can you tell me a story about a particular instance of your work involving evidence-based programs? *
e) Does your work involve doing translational research? If yes, how so? Can you tell me a story that shows an example of you doing translational research? *

- *Follow-up about **successes**, **tensions**, **conflicts**, **key moments**, **feelings**, etc.*

- *Try to get a concrete, practical picture of "processing interchanges," of how ideas and knowledge move around and flow, tangibly, and how knowledge and ideas are altered in these processes.*

5. Changes in your work

a) Please describe how EBP and translational research have come, over time, to be part of your work.

b) How is your work different, if at all, now that you are part of the BCTR? *(for BCTR only)*

6. Your ideas and reflections on your work

On the research-practice gap:

a) How would you describe "the research-practice gap" to a colleague from another country who was unfamiliar with that term?

b) In your opinion, what causes the research-practice gap?

c) In your option, what efforts, in addition to the work you are doing now, should be undertaken in order to better address the research-practice gap?

On evidence-based programs:

d) In your own words, what is an Evidence-Based Program?

e) Can you describe, or draw a model, of how EBPs work?

*** If the person draws a model or refers to an existing graphic, take a copy of that image.*

f) What are the strengths and weaknesses of this approach?

On translational research:

g) In your own words, what is translational research?

h) Can you describe or draw a model of how translational research works? **

i) What are the strengths and weaknesses of this approach?

7. Conclusion

a) Who else, at the BCTR or elsewhere, should I talk to in order to learn more about EBPs and/or translational research?

b) In your opinion, how would *[another person involved in the work]* describe this work involving EBPs and translational research?

c) What other comments or thoughts do you have?

Revisit ideas touched on briefly or ask follow-up questions to get at thoughts or perceptions which seemed important yet weren't directly stated in answers to previous questions.

Wrap-up:

- *Thank the person for his or her time.*
- *Mention the possible need for a follow-up interview, if the person is willing.*
- *Remind him or her that I will email an electronic copy of the interview transcript for him or her to make changes as desired.*
- *Request that, if in the future the person has any other stories or ideas about the topics discussed that come to mind, that she or he please think to contact me to let me know.*

APPENDIX B – Institutional Review Board Concurrence of Exemption

Cornell University
Office of
Research Integrity and Assurance

East Hill Office Building, Suite 320
395 Pine Tree Road
Ithaca, NY 14850
p. 607-255-5138
f. 607-255-0758
www.irb.cornell.edu

Institutional Review Board for Human Participants

Concurrence of Exemption

To: Thomas Archibald
From: Matthew Aldridge, Senior IRB Administrator
Date: May 29, 2012

RE: **Protocol ID#:** 1205003080
Project(s): The Self-Evidence of Evidence and the Translation of Translation: Knowledge, Power, and the "Research-Practice Gap" in Non-Formal Education

A member of the Office of Research Integrity and Assurance (ORIA) has reviewed the above-referenced project and found it to qualify for **Exemption from IRB Review** according to paragraph #2 of the Department of Health and Human Services Code of Federal Regulations 45 CFR 46.101(b).

This proposal has not been evaluated for scientific merit, except to weigh the risk to the human participants in relation to the potential benefits.

Please be aware of the following:

- Exemption from IRB review does not absolve the investigator from ensuring that the welfare of the research subjects is protected and that methods used and information provided to gain participant consent are appropriate to the activity. It is your responsibility as a researcher to familiarize yourself with and conduct the research in accordance with the ethical standards of the Belmont Report (http://ohsr.od.nih.gov/guidelines/belmont.html).
- You must notify the ORIA office of changes or amendments to the above-referenced protocol **BEFORE** their implementation.
- You are not required to submit progress reports or requests for continuing review/approval to ORIA, unless you modify your study protocol.

c: William Trochim

APPENDIX C – Invitation to Participate

Invitation to Participate in a Research Study

The Self-Evidence of Evidence and the Translation of Translation: Knowledge, Power, and "the Research-Practice Gap" in Non-Formal Education

Dear ----------,

I am a graduate student in the Field of Education at Cornell University. I am currently conducting my dissertation research, which is focused on translational research and evidence-based programs (EBPs) as they pertain to non-formal education. I believe—and I assume you would agree—that these novel approaches to connecting research and practice represent areas of work which are both important and, as yet, still not well understood. The purpose of my study is to better understand how translational research and EBP implementation occur in specific, complex, organizational contexts, and how this work affects the work of non-formal educators.

Because of your involvement in work involving translational research and/or EBP implementation in the context of ----------, I am deeply interested in having you participate in my study. Initially, participation would entail an interview lasting about one hour (by phone or in-person, depending on feasibility), during which I will ask you open-ended questions to help me learn more about your work with translational research and EBPs. If needed, and if you are willing to continue your participation in this study, you may be requested to participate in a follow-up interview as well.

This research project has been approved by the Cornell University Institutional Review Board (Protocol # 1205003080). If you are interested, before your participation begins, you can ask me any questions you might have about the study; you will also be asked to provide proof of your informed consent to participate by signing a form I will provide.

Please contact me at tga4@cornell.edu to let me know whether or not you are interested in participating in this study, and to ask any clarifying questions you might have.

Thank you,

Tom Archibald
Education
3M14 Martha Van Rensselaer Hall
Cornell University
Ithaca, NY 14853
Phone: 781-258-2246
Email: tga4@cornell.edu

APPENDIX D – Consent Form

I am asking you to participate in a research study. This form is designed to give you information about this study. I will describe this study to you and answer any of your questions.

Project Title: The Self-Evidence of Evidence and the Translation of Translation: Knowledge, Power, and "the Research-Practice Gap" in Non-Formal Education

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Faculty Advisor: Arthur L. Wilson
Education
Professor & Chair
Department of Education
435 Kennedy Hall
Cornell University
Phone: 607-255-2207
Email: aw87@cornell.edu

What the study is about

The purpose of this research is to learn about how people do translational research and intermediary work supporting evidence-based programs (EBPs) pertaining to non-formal education. These novel approaches to connecting research and practice represent areas of work which are both important and, as yet, still not well understood. The purpose of my study is to better understand how translational research and EBP implementation occur in specific, complex, organizational contexts, and how this work affects the work of non-formal educators.

What we will ask you to do

- I will ask you to participate in an interview that I will conduct. The interview will last roughly 60 minutes. If you are willing, there may be additional follow-up interviews of 30 – 60 minutes in which I will ask you to participate. If you give permission below, I will audio record the interview. After the interview is completed, I will share a transcript of the interview with you to make any changes to the text that you may wish to make.
- I will observe some of your daily work activities, following a schedule that I will establish with you and/or your supervisor. This element of my research will not require you to do any tasks you would not ordinarily do.

Risks and discomforts

This study may involve emotional risks to you, in that in the course of the interview process, some of my questions about knowledge and practice and the way work is done could be perceived as sensitive, although my questions are not intended to be so. Also, there may be social or economic risks to you, since some of your responses to my interview questions may pose a risk you reveal dissenting opinions from or

about your co-workers or supervisor. This poses a potential risk to you because it could plausibly affect your relationship with others in the workplace and thus affect his or her employability.

Benefits

There is no likely direct benefit to you for participating in this study, but your organization and others like it may benefit from the insights produced by this study. More generally, it is reasonable to presume that the results of this study will be beneficial to a wide array of community-based non-formal educators and to researchers and practitioners more generally who are interested in bridging the research-practice gap. This includes researchers, practitioners, and research-practitioners from the fields of education, human development, community psychology, science and technology studies, development studies, and beyond.

Audio/Video Recording

I am asking you for permission to audio record our interview. This recording will allow me to transcribe your responses into a text format, which I can then share with you. No one other than me will have access to the audio recording; I will erase these recordings two years after the completion of the study.

Please sign below if you are willing to have this interview audio recorded. You may still participate in this study if you are not willing to have the interview recorded.

☐ I do not want to have this interview recorded.
☐ I am willing to have this interview recorded:

Signed: _____

Date: _____

In some cases, I may request to take a photo of you or of your surroundings. I may use some photographs in public presentations of this research.

As such, I am asking for your permission to grant me the right to make, use and publish recordings in whole or in part in media forms now known (such as film, slides, and digital images) or developed in the future. This includes the right to edit or duplicate any images. I will maintain control of any photographs taken so they cannot be used for purposes outside of presenting this research. You waive the right to inspect or approve the finished product or printed/published matter that uses the images or versions of the images; and you will not receive any financial compensation for commercial and/or non-commercial (as appropriate) uses of the images.

Please sign below if you are willing to have your photograph taken. You may still participate in this study if you are not willing to be photographed.

☐ I do not want to have my photograph taken.
☐ I am willing to have my photograph taken:

Signed: _____

Date: _____

Privacy/Confidentiality
I will keep all information you provide to me confidential. Your name or other personal identifiers will be carefully kept separately from your interview responses and my observational notes related to you. When I report my findings, I will aggregate types of responses by theme, so that even when I use a quotation from you, no one will be able to know that the quotation came from you.

Taking part is voluntary
Your involvement is voluntary, and you may refuse to participate before the study begins, discontinue at any time, or skip any questions/procedures that may make you feel uncomfortable, with no penalty to you, or your academic standing, record, or relationship with the university or your organization or any other organization involved with this research.

If you have questions
The researcher conducting this study is Thomas Archibald, a graduate student at Cornell University. Please ask any questions you have now. If you have questions later, you may contact Thomas Archibald at tga4@cornell.edu or at 781-258-2246. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) for Human Participants at 607-255-5138 or access their website at http://www.irb.cornell.edu. You may also report your concerns or complaints anonymously through Ethicspoint online at www.hotline.cornell.edu or by calling toll free at 1-866-293-3077. Ethicspoint is an independent organization that serves as a liaison between the University and the person bringing the complaint so that anonymity can be ensured.

You will be given a copy of this form to keep for your records.

Statement of Consent
I have read the above information, and have received answers to any questions I asked. I consent to take part in the study.

Your Signature_____ Date_____

Your Name (printed)_____

Signature of person obtaining consent_____ Date_____

Printed name of person obtaining consent_____

This consent form will be kept by the researcher for at least five years beyond the end of the study.

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